



County Borough of Bournemouth,
1913.

ANNUAL REPORT

OF THE
MEDICAL OFFICER OF HEALTH

With which are included the REPORTS
of the

BOROUGH BACTERIOLOGIST,
CHIEF SANITARY INSPECTOR,

AND
PUBLIC ANALYST.

BOURNEMOUTH :

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COUNTY BOROUGH OF BOURNEMOUTH

ANNUAL REPORT

OF THE

Medical Officer of Health

For the Year 1913.

Health Department,

Borough Offices,

Bournemouth.

May, 1914.

TO THE MAYOR AND TOWN COUNCIL OF
THE COUNTY BOROUGH OF
BOURNEMOUTH.

Gentlemen,

I beg to present to you my report on the Health of the County Borough of Bournemouth during the year 1913.

The statistics of the year indicate that the high standard of health in Bournemouth is not only being maintained but is gradually improving.

The death rate from notifiable infectious diseases is one of the lowest ever recorded for the

County Borough; and the infantile mortality figure is the lowest recorded in the history of the town.

During the year the incidence of zymotic disease increased in most parts of the country, the increase being due probably to seasonal waves of infection and to meteorological conditions. In view of this increase, the above-mentioned record of Bournemouth becomes more significant of the healthy condition of the town.

This healthy condition is due in so large a measure to the natural advantages of Bournemouth, its site and soil, its abundant open spaces and its plentiful foliage, that there is every reason for believing that the health record of the town will continue to improve year by year provided that the influence of these factors is maintained.

The recent extensions of the County Borough should guarantee the continuance and due increase of the open spaces. With regard to the foliage, in view of the continued replanting which is being carried on, there should be no great diminution of the number of trees in Bournemouth. In addition to justifying the claim of Bournemouth to be a beautiful garden city, they have undoubtedly exercised a beneficial hygienic influence on the town.

PHYSICAL FEATURES OF BOURNEMOUTH.

As required by the Local Government Board, there is here reinserted a brief statement of the physical features and general conditions of the County Borough.

Bournemouth is built on a sandy subsoil, the dry and porous nature of which makes it an ideal site for a health resort. The town is divided into two parts by the valley of the Bourne, which runs serpentine through the town to the sea : and numerous smaller valleys or chines also intersect the town, opening on to the free air of the bay.

Whilst the Chines add greatly to the natural beauty of the town, they have also a very material

influence in increasing its hygienic circumstance, for they serve as watersheds, carrying off the surface water from the rising ground and moisture that percolates readily through the sandy soil, so that the subsoil is kept always in a state of sanitary dryness. And the Chines serve also as channels through which the fresh sea air is carried into the heart of the town; in my opinion this is one of the main reasons for the fact that whilst the winter climate is mild, the summer temperature throughout the town is also temperate, a fact which is becoming more fully realised by visitors and which is clearly shown by the comparative meteorological records.

To the north the town stretches away in open heathland, interrupted only by belts of pine woods.

SOCIAL CONDITIONS OF THE COUNTY BOROUGH.

This subject specified by the Local Government Board in connection with the "chief occupations of the inhabitants" as matter for report by the Medical Officer of Health may be dealt with negatively; there is practically no great industrial occupation in the town.

Coincident with the growing reputation of the town as a health resort and largely as a result of that reputation, its permanent population has increased chiefly by the immigration of well-to-do residents who have sought and found in the town rest and enjoyment after a strenuous business or professional life, or who have come to Bournemouth in order to give their children the educational advantages among health-giving and beautiful surroundings which the excellent Private Schools offer.

There is also a large number of people who come to live in Bournemouth for many months of the year, either in Boarding Houses or Private Apartments, and there are also the people who come for holidays of shorter duration.

As a result of the increasing number of the resident-class an increasing number of the population is employed in or in connection with the building trade; as a result of the increasing number of visitors an increasing number of the population is employed to cater for their wants in connection with the Boarding Houses and Laundries.

There is thus no particular occupation which has any marked deleterious effect on the public health of the community.

DEVELOPMENT OF THE TOWN.

Although the early history of Bournemouth was connected intimately with the suitability of its climate for the treatment of Tuberculosis, its more recent development has been due largely to the beneficial effect of its climate on a wide range of diseases and on its attractions as a health and holiday resort. Whereas in 1884 (when Robert Louis Stevenson sought relief in our climate from the infliction of Tuberculosis) the reputation of the town rested on its beneficial effects on the disease, there has been a gradual growth of the realisation that the climate and the special natural circumstance of Bournemouth have a wider field of utility in therapeutics. And at the present time there is a recognition alike in the lay and the medical mind that Bournemouth offers healing powers for ailments apart from, and in addition to, "chest" diseases.

POPULATION AND AREA.

The population of Bournemouth to the middle of the year 1913 is estimated at 83,000. The area at that time was 5,850 acres, the estimate of the average distribution of the population being therefore 14.18 persons per acre.

The extension of the County Borough recently granted by the Local Government Board brings in an additional 774 acres with an estimated population of 1,758.

MORTALITY RATE.

During 1913 there were 929 deaths registered in the district, and of these 159 were deaths of non-residents.

There were 97 deaths of Bournemouth residents registered elsewhere and transferred to the Bournemouth statistics.

In an estimated population of 83,000 in the middle of the year the crude death rate was 11.19, and the nett death rate for Bournemouth was 10.44.

In the following table the calculation basis of 1911, 1912 and 1913 differs from that of the previous years (L.G.B. order). It is obvious also that the rates, based on an estimate of the population of the nine intercensal years, are not reliable as a comparative factor.

(Table I. L.G.B.)

Vital Statistics of Whole District during 1913 and previous Years.

Year.	Popula- tion esti- mated to Middle of each Year	Births.			Total deaths registered in the District		Transferable Deaths.		Nett Deaths belonging to the District.			
		Uncorrected Number.	Nett.				Of Non-residents registered in the District.	Of Residents not registered in the District.	Under 1 year of age		At all Ages.	
			No.	Rate.	No.	Rate.			No.	Rate per 1000 Nett B'ths	No.	Rate.
1	2	3	4	5	6	7	8	9	10	11	12	13
1908	76527	1120		14.63	934	12.20			106	94.64	728	9.51
1909	79288	1203		15.17	909	11.46			110	91.43	728	9.18
1910	81812	1276		15.59	871	10.64			93	72.88	688	8.40
1911	79150	1201	1228	15.51	1020	12.88	174	89	121	98.54	935	11.81
1912	82000	1175	1211	14.89	912	11.12	167	81	80	66.06	826	10.07
1913	83000	1257	1303	15.69	929	11.19	159	97	86	66.00	867	10.44

Table 1a.

At the latest Census, (1911).

Area of the County Borough of Bournemouth	...	....	5,850 acres
Total population at all ages	....		78,674
Number of inhabited houses	....		15,000
Average number of persons per house			5.24

BIRTH RATE.

The birth-rate for Bournemouth during the year 1913 was 15.6 per 1,000 population, and the rates for the past 10 years are as follows:—

BOURNEMOUTH.

1904	1905	1906	1907	1908	1909	1910	1911	1912	1913
17.2	16.3	17.6	16.5	14.7	15.1	15.5	15.5	14.8	15.6

The special circumstances of Bournemouth in the age distribution of its population have been referred to in previous reports as influencing the birth-rate.

INFANTILE MORTALITY.

*Number of deaths of Infants under 12 months to every
1,000 births.*

For the year 1912 the infantile mortality was 66.0, and this was the lowest figure recorded in Bournemouth.

For the year 1913 the infantile mortality figure is again 66.0, or, as corrected by the Registrar General, 65.0.

In the latter year, of the 96 large towns, two only had a lower rate than Bournemouth.

The average for the large towns was 117, and the highest rate recorded was 180.

The low rates recorded for Bournemouth in these years are due in some measure to the meteorological conditions, especially during the summer months; but it is accepted that a low infantile mortality is indicative also of a high standard of hygiene in any district.

One of the conditions which increase the number of infant deaths is the alimentary disease of gastritis and enteritis. This ailment is always more prevalent in hot summer months, and hence in cold wet summers the number of infants succumbing to it is usually smaller than in hot dry summers.

The germs of the disease increase very rapidly in decaying vegetable and other refuse; and the germs of the disease are carried by flies to the food

of infants and multiply rapidly in milk. Vegetable matter decays much more rapidly in hot summer weather, and flies are much more abundant at that time for they breed in decaying refuse; so that there is a combination of conditions which is extremely favourable to the contamination of food, and especially of milk, by the germs of this disease.

Apart from the more detailed methods of preventing the disease in infants, it is obvious that the prompt removal or the prompt burning of all vegetable house refuse are measures which, if adopted, will diminish the disease and save the lives of many infants. The Bournemouth Health Authority have recently issued a poster advising householders to burn the vegetable refuse, and the work of the Public Health Department, allied with that of the Voluntary Association, should result in a wider knowledge of this subject.

The statement that Bournemouth has a low infantile mortality is a relative one. The town has one of the lowest rates among the large towns, but the wastage of child life even at that low figure is far too great, and whilst the great natural advantages of Bournemouth and the efforts of its Council in the cause of hygiene have given it a finer record than that of other towns, there is need for further efforts so that the wastage of infant life may be made smaller yet.

It was with this end in view that the Council recently adopted the Notification of Births Act, which will result in attention being given to those mothers who require advice and guidance in the upbringing of their infants.

In many matters concerning infants, the timely advising of the mother by a trained nurse, working under medical supervision, may make the

difference between life and death or between illness and good health in the infant, for although mother-love may be instinctive, mother-craft is acquired.

Following the adoption of the Notification of Births Act, the Bournemouth Health Authority have come into closer co-operation with the Bournemouth Health and Mothers' Aid Association. The work of the Health Department will be linked up with that of the four Mothers' Clubs carried on by the Association, and it is hoped that a sufficient number of voluntary workers will be obtained to supplement the work of the Health Visitor.

It is probable that the infant care work throughout the country will be developed considerably in the near future, and the present organisation of the work in Bournemouth should form a basis on which development should be both natural and efficient. At a time when voluntary efforts and voluntarily supported institutions such as Sanatoria and Hospital departments are becoming more and more nationalised or municipalised, it appears to me to be most desirable that the voluntary work of the Bournemouth Health and Mothers' Aid Association should not be replaced by municipal effort, but should be aided by and co-ordinated with it. Such voluntary work of this nature brings the leisured classes into touch with the life of the poorer people, and the greater understanding there is of that life, the better will it be for the nation both in its present health and in that of future generations.

Nett Deaths from stated causes at various Ages under 1 Year of Age.

Nett Births in the year ... 1303. Nett Deaths in the year ... 86.

WATER SUPPLY.

Bournemouth is supplied by two Water Companies; about 80,500 of the inhabitants being supplied by the Bournemouth Gas and Water Company, and about 2,500 by the West Hants Water Company.

The following analyses are taken at random from the reports on samples of each Company's water supply and indicate the continuance of a high degree of purity:—

LISTER INSTITUTE OF PREVENTIVE MEDICINE.

REPORT ON EXAMINATION OF A SAMPLE OF WATER
RECEIVED FROM BOURNEMOUTH.

DESCRIPTION OF SAMPLE.

The sample was marked "Standpipe, Richmond Hill, Bournemouth, Noon 22/5/13."

GENERAL CHARACTERISTICS.

The sample was clear and free from smell.

ANALYTICAL DATA.

Chemical	Parts per 100,000	Chemical	Parts per 100,000
Suspended Matter	...	Nitrogen as Nitrites	None
Dissolved Solids	23·5	Nitrogen as Nitrates	0·102
Chlorine	1·6	Oxygen absorbed from	
Alkalinity	13	Permanganate at 80° F :	
Permanent Hardness	4	(a) 15 minutes	...
Free and Saline Ammonia	Trace	(b) 4 hours	0·06
Albuminoid Ammonia	0·003	Lead	None

Total Hardness 12=8·4 grains per gallon.

BACTERIOLOGICAL.

No Bac.-Coli present.

The sample is satisfactory both chemically and bacteriologically.

ARTHUR HARDEN.

H. SCHUTZ.

REPORT ON EXAMINATION OF A SAMPLE OF WATER RECEIVED FROM BOURNEMOUTH.

DESCRIPTION OF SAMPLE.

The sample was marked "Filtered Water Chamber, Water Works,
Christchurch, 10.30 a.m., 22/5/13."

GENERAL CHARACTERISTICS.

The sample was clear and free from smell.

ANALYTICAL DATA.

Chemical	Parts per 100,000	Chemical	Parts per 100,000
Suspended Matter	...	Nitrogen as Nitrites	None
Dissolved Solids	27.9	Nitrogen as Nitrates	0.15
Chlorine	1.9	Oxygen absorbed from	
Alkalinity	20.5	Permanganate at 80° F :	
Permanent Hardness	2.5	(a) 15 minutes	...
Free and Saline Ammonia	0.001	(b) 4 hours	0.1
Albuminoid Ammonia	0.0085	Lead	None

Total Hardness 18=12.6 grains per gallon.

BACTERIOLOGICAL.

No Bac.-Coli present.

The sample is satisfactory both chemically and bacteriologically.

ARTHUR HARDEN.

H. SCHUTZ.

NOTIFIABLE INFECTIOUS DISEASES.

The following table shows the number of cases of Infectious Disease which were notified during the year 1913.

No death occurred from Enteric Fever in Bournemouth during the year, and the death-rate per 1,000 population for Diphtheria was at the exceedingly low rate of .07 per 1,000 population; of this, .02 was accounted for by the deaths of non-residents.

One death occurred from Scarlet Fever.

No case either of Cerebro-spinal Meningitis or of Poliomyelitis was notified during the year.

Of the 22 cases of Erysipelas which were notified during the year, not one died, and there could be traced no spread of the disease from one person to another, all the cases arising apparently from individual causes.

TABLE No. 2 (L.G.B.).

CASES OF INFECTIOUS DISEASE NOTIFIED DURING THE YEAR 1913.

Notifiable Disease.	No. of Cases Notified.						Total Cases Notified in each Locality.					Total cases removed to Hospital.	
	At all Ages.	Under 1.	5.	15.	25.	45.	1	2	3	4	5		
Small-pox	—	—	—	—	—	—	—	—	—	—	—	
Cholera	—	—	—	—	—	—	—	—	—	—	—	
Diphtheria (including Membranous Group)	134	—	25	91	9	9	23	65	8	21	17	131
Erysipelas	22	—	—	—	2	3	3	2	3	7	7	—
Scarlet Fever	132	—	22	92	14	3	22	53	13	24	20	124
Typhus Fever	—	—	—	—	—	—	—	—	—	—	—	—
Enteric Fever	2	—	—	—	1	1	—	—	—	—	2	2
Relapsing Fever	—	—	—	—	—	—	—	—	—	—	—	—
Continued Fever	—	—	—	—	—	—	—	—	—	—	—	—
Puerperal Fever	4	—	—	—	—	4	2	—	—	—	2	—
Cerebro-spinal Meningitis	—	—	—	—	—	—	—	—	—	—	—	—
Poliomyelitis	—	—	—	—	—	—	—	—	—	—	—	—
Pulmonary Tuberculosis*	—	—	—	—	—	—	—	—	—	—	—	—
Other forms of Tuberculosis*	—	—	—	—	—	—	—	—	—	—	—	—
Ophthalmia Neonatorum	2	2	—	—	—	—	1	—	—	—	1	—

Totals	...	296	2	47	183	26	20	16	2	51	120	24	52	49	257
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* See special table.

BACTERIOLOGICAL WORK.

The report of the County Borough Bacteriologist is included in this book. The bacteriological work has increased considerably during recent years, and its value is evident in, among other results, the remarkably low case death-rate from Diphtheria. Indirectly it has also resulted in the almost vanishing death-rate from Scarlet Fever, for it has largely eliminated the danger arising from double infection in this disease.

I wish to record my appreciation of the promptness and accuracy of the bacteriological reports, for they have rendered more successful the efforts to limit the spread of disease, and thereby have saved life and minimised the damage done by illness.

The bacteriological reports on the cleanliness of milk still indicate that greater control of the sources of supply is required. As the sources of supply are nearly all outside the County Borough, the local Authority has little control over them, but in some cases of unsatisfactory milk, your Medical Officer has acted in conjunction with the Medical Officer of the district concerned.

INFLUENZA.

The number of deaths certified as being due to this condition is again comparatively large.

In many cases Influenza was not itself the fatal disease but was the preliminary ailment which ushered in the more serious condition.

The infectious nature of Influenza is so marked and its results so far-reaching, both as a preliminary to serious diseases and as an ailment which even in its milder forms disables the patient temporarily from work, that the condition is one that

has an important bearing on the health of the community. Probably it is one of the most difficult infections to deal with, but there is hope that in the future new methods will be discovered for limiting its spread.

PULMONARY TUBERCULOSIS.

Since January, 1912, all cases of Pulmonary Tuberculosis have been compulsorily notifiable to the Medical Officer of Health.

Whilst the need for the notifications to be of a confidential character has been realised, there appears to be still some fear that the notification will brand the patient as an infecting agent. Not all cases are to be regarded as infectious; nor is there, even in the infectious cases, any very rapid transmission of infection. It is the prolonged and repeated exposure of an individual to the attacks of the Tubercle Bacilli which it is important to prevent, and all measures adopted by the Health Authority have this end in view.

During the year 113 cases were visited and re-visited. The selection of these cases was based mainly on the degree of infectivity of the case and the exposure of adults or children to infection by the patient. This preliminary information was supplied by the notifying medical attendant on the form of notification.

In 116 cases the medical attendant was communicated with concerning the disinfection of the room or rooms occupied by the patient.

A patient suffering from Pulmonary Tuberculosis at an early stage of the disease, who shared neither living-room nor bedroom with other persons, need not be regarded as an infecting agent, and therefore does not require the active supervision of a Local Health Authority.

The advanced cases of the disease, especially if the patients live in small houses where they share a bedroom or living room with other persons, must be regarded as dangerous in slow measure to these other persons. The problem of dealing with these patients is a difficult one. For the present, apart from the temporary isolation of these patients in a Sanatorium, the Tuberculosis Nurse (Health Visitor) visits the homes and advises the patients as to the best methods of avoiding the infection of other people who live with them.

It is doubtful whether all cases of Pulmonary Tuberculosis are notified to the Medical Officer of Health; but the fear of patients that they will be interfered with economically or stigmatised in any way by notification will gradually disappear as the administration of the Tuberculosis Order becomes better known.

It is not possible in a health resort to utilise the number of deaths occurring from Pulmonary Tuberculosis as a basis for estimating the actual number of cases of the disease: the factor of immigration would make the calculation incorrect.

NON-PULMONARY TUBERCULOSIS.

The cases of non-pulmonary Tuberculosis notified numbered 53, and this number appears to be very much smaller than was anticipated.

Of these notifications, 22 were concerning patients under 20 years of age, and 15 of them were concerning children under 15 years of age.

These forms of Tuberculosis affect children relatively more frequently: the Tubercle Bacilli produce disease in the bones and joints and other parts more often than they do in the lungs of children.

The following table gives the classification of the locations of the Tuberculosis in the patients of all ages who were notified:—

LOCATION.				Male.	Female.	Total.
Diseases of Bones and Joints	...	...	...	7	8	15
Diseases of Larynx	...	...	...	6	1	7
Diseases of Genito-Urinary System	...	...	...	0	7	7
Abdominal Disease	...	...	...	5	5	10
Diseases of Glands	...	...	...	3	4	7
Diseases of other parts	...	...	...	3	4	7
Totals	...	...	..	24	29	53

TREATMENT OF TUBERCULOSIS.

During the year 1913, there was no municipal provision for the treatment of Tuberculosis.

A scheme has been presented to and is under the consideration of your Committee, which includes the provision of Sanatorium beds, Hospital beds, and a Tuberculosis Dispensary. The proposed arrangements relate to the whole of the community and include therefore insured persons suffering from Tuberculosis.

NATIONAL HEALTH INSURANCE.

As the Act is a measure concerned with the health of a large section of the community, its administration during the past year has been of interest to all concerned in public health matters.

It was hoped that by the provision of prompt and adequate medical attention for insured persons the standard of health among them would be raised; and also, in a more direct way, the efforts of the local Health Authorities towards the prevention of infection would be rendered more successful by the earlier notification of disease.

More than any other part of the Act, the Sanatorium Benefit provisions were marked out as offering a basis for the development of an extensive campaign against Tuberculosis, aiming at the prevention and ultimate elimination of the disease.

The hope is justified that after the initial difficulties have been overcome, the administration may be developed so that it will be successful in its aim.

It would appear, however, that Institution treatment, to be successful in restoring a patient to health, must be applied in the very early stages of the disease, and that even for these early cases, the minimum period in an institution should be at least three months. If a fair measure of success is to be obtained in dealing with these early cases the dis-

ease should be discovered early, and the administration of Sanatorium Benefit should be developed on lines similar to those of a Health Authority in dealing with the more rapidly infectious diseases, i.e., supervision of contacts of actual patients.

For the more advanced cases of Phthisis it becomes necessary to prevent as far as possible their infecting other people, more especially those who live in the same rooms as the patients.

This early diagnosis, and the prevention of infection form the preventive medicine side of the Municipal Tuberculosis Scheme which is under consideration by your committee. The Scheme will relate to the whole of the community and will include the treatment of insured persons suffering from Tuberculosis. For this treatment the Local Insurance Committee will hand over to the Local Health Authority the Sanatorium Benefit funds apportioned to Bournemouth.

Whilst the Insurance Act, in its Sanatorium Benefit provision, aims both at the prevention and the care of disease, it appears to me that in the administration of its medical benefit it is most desirable that the ideal of preventive medicine should be encouraged.

SANITARY HOSPITAL.

During the year 308 patients were admitted into the Sanitary Hospital. Of this number, 49 were admitted for isolation as cases simulating infectious diseases, or as carrier cases of disease. The use of the smaller (single) isolation and observation wards for this class of case is of great value in the prevention of the spread of disease.

The total number of deaths which occurred in the hospital during the year was 7.

The case mortality of Scarlet Fever was 0.8 deaths per 100 cases, and of Diphtheria 4.5 per 100 cases of the disease.

The remarkably low mortality rate from Diphtheria was due to the early discovery of most of the cases. Prompt treatment of this disease almost invariably succeeds in saving life and in preventing its after effects on the patient; and the only patients who died were those in whom the disease was not discovered and treated until it had progressed for some time.

Medical
Super-
vision of
Schools.

As a large percentage of the cases of Scarlet Fever and Diphtheria occurred among the elementary school children, the control and supervision of the school classes, and particularly of children who have been exposed to infection, is of the utmost value. There is good evidence for the statement that this supervision has resulted in limiting the spread of these two diseases and has saved many children from death or the damaging after effects of their incidence.

Arrangements have now been made for a fuller training of the probationer nurses, and a course of lectures will be given by the Medical Superintendent and the Matron.

HOSPITAL TABLE C (1). Sanitary Hospital Expenditure, &c., for the years 1908, 1909, 1910, 1911, 1912, 1913.

Month	Total Expenditure, including Repairs, Wages, &c.						Expenditure on Provisions only.						Daily Average Number of Persons per month, inclusive of staff.				Average Cost per Head per Day.							
	1908.	1909.	1910.	1911.	1912.	1913.	1908.	1909.	1910.	1911.	1912.	1913.	1908.	1909.	1910.	1911.	1912.	1913.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
JAN. . .	£ s. d. 211 3 9	£ s. d. 311 6 0	£ s. d. 329 4 0	£ s. d. 331 9 8	£ s. d. 302 15 9	£ s. d. 560 13 9	£ s. d. 63 13 6	£ s. d. 96 12 1	£ s. d. 78 7 8	£ s. d. 64 9 4	£ s. d. 84 11 0	£ s. d. 84 11 0	36·0	59·77	67·2	58·8	58·20	61·32	3 9½	3 4½	3 1½	3 4½	3 4½	5 11
FEB. . .	207 10 6	209 1 5	261 15 11	296 16 2	293 9 5	346 17 7	51 3 2	64 8 9	58 12 1	71 19 11	60 3 4	71 1 10	35·38	64·0	57·9	52·3	53·34	59·14	4 0½	2 4 3	2½ 4 0½	3 9½	4 2½	
MARCH	287 14 8	450 12 5	400 2 0	369 1 4	397 7 4	519 13 3	50 7 8	65 8 0	73 1 9	76 9 5	81 8 6	72 12 11	38·19	68·61	64·8	45·03	50·8	50·93	4 10½	4 3 3	11½ 5 3½	5 0½	6 7	
APRIL	145 1 5	200 17 3	171 5 6	252 18 7	191 13 2	184 14 8	47 1 11	67 8 2	61 7 6	51 17 3	56 19 8	57 1 10	38·7	54·0	57·3	38·0	50·33	52·8	2 6	2 5½	2 0 4	5½ 2 6½	2 4½	
MAY . .	229 5 10	215 12 11	276 15 7	199 3 7	265 0 8	267 14 6	47 12 10	54 7 11	67 1 5	56 2 5	72 5 11	66 11 4	41·45	44·42	66·7	33·6	54·0	51·7	3 7	3 1½	2 8 3 10	3 1½	3 4½	
JUNE. .	235 17 5	173 13 9	271 8 6	168 5 1	273 11 11	331 14 8	56 18 2	43 18 8	69 19 5	44 17 0	82 2 11	57 3 3	39·7	27·3	58·6	29·6	81·45	50·76	3 11½	3 1½	3 3½	2 2½	4 4	
JULY	212 5 10	235 2 6	189 15 6	200 9 0	279 0 8	299 4 9	48 14 6	52 9 1	65 16 6	46 16 11	82 19 5	65 16 9	32·0	49·64	47·2	37·8	91·64	59·58	4 8½	3 0½	2 7 3 5	1 11½	3 8½	
AUG. . .	160 12 4	162 5 11	192 2 6	230 4 11	433 3 8	389 18 9	26 0 8	52 3 9	50 3 6	54 11 11	82 19 4	86 3 2	30·0	49·68	38·2	31·7	59·58	82·45	3 5	2 1½	2½ 4 3½	4 8	2 8	
SEPT. .	229 14 7	291 11 0	392 1 11	303 15 6	495 5 8	357 2 9	57 3 8	43 11 0	61 10 0	51 11 4	82 0 0	81 19 1	33·47	46·53	38·1	31·8	54·86	66·9	4 7	4 2 6	10½ 6 4½	6 0½	3 6½	
OCT. . .	161 8 5	244 12 9	191 12 2	251 18 8	289 2 5	357 9 3	53 16 3	56 7 7	66 15 5	59 10 3	57 7 9	89 0 3	41·23	57·61	53·9	43·2	60·83	65·45	2 7	2 9 2	3½ 3 9	3 0½	3 6½	
NOV. . .	227 3 9	195 2 3	239 0 8	192 9 9	223 6 2	277 8 9	72 2 5	72 7 1	77 11 3	58 12 5	96 4 7	99 2 3	52·77	67·2	70·0	47·3	68·43	69·0	2 10½	1 11½	2 3½ 2 8½	2 2	2 8	
DEC. . .	228 18 6	258 18 1	309 11 2	376 18 10	461 17 5	317 5 3	68 15 7	76 3 3	111 11 5	84 4 5	86 7 8	120 9 5	59·5	73·29	84·3	59·87	66·82	87·6	2 5½	2 3½	2 4½ 4 1	4 5½	2 4½	
Totals	2589 16	02948 16	33224 15	53176 11	13905 14	34159 17 11	634 6 5	717 6	9860 2 4	735 0 11	905 8 5	951 13 1												

HOSPITAL TABLE C (2). Comparative Statement for 6 Years.

YEAR.	Average number of persons, inclusive of Staff in Hospital per day.	Total Average cost per person per day, which includes all administrative expenses.	Average cost per person per day for provisions alone, including stimulants.	Maintenance charges. Income for the year.	Total Expenditure for the year, after deducting receipts from patients.	Total of all cases received into Hospital.
1907	40·34	£ s. d. 0 8 9½	£ s. d. 0 0 11	£ s. d. 447 2 2	£ s. d. 2350 3 1	206
1908	39·87	0 8 5½	0 0 10½	969 0 1	2170 14 6	229
1909	55·97	0 2 10½	0 0 8½	578 19 7	2369 16 8	333
1910	55·84	0 3 0½	0 0 10	504 18 10	2719 16	322
1911	42·6	0 4 1½	0 0 11½	219 0 8	2957 10 5	177
1912	62·52	0 3 5	0 0 9½	401 3 2	3504 11 1	292
1913	63·13	0 3 8½	0 0 10	522 10 10	3637 7	306

FACTORIES AND WORKSHOPS ACTS.

The following is a tabulated report on the above Acts as applied to Bournemouth. Further details are included in the report of the Chief Sanitary Inspector:—

Factories, Workshops, Workplaces, Laundries and Homework

1—INSPECTION OF FACTORIES, WORKSHOPS AND WORKPLACES.

Including Inspections made by Sanitary Inspectors or Inspectors of Nuisances.

Premises.	Inspections.	Number of Written Notices.	Prosecu- tions.
1	2	3	4
Factories (including Factory Laundries)	75	10	—
Workshops (including Workshop Laundries)	1165	19	—
Workplaces (other than Outworkers' premises included in Part 3 of this report) ...	103	13	—
Total	1343	42	—

2—DEFECTS FOUND IN FACTORIES, WORKSHOPS AND WORKPLACES.

No. of Defects.

Particulars.	Found.	Remedied.	Referred to H.M. Inspector.	No. of Prosecu- tions.
1	2	3	4	5
<i>Nuisances under the Public Health Acts :—*</i>				
Want of cleanliness ...	24	24	—	—
Want of ventilation ...	1	1	—	—
Overcrowding ...	—	—	—	—
Want of drainage of floors ...	1	1	—	—
Other nuisances ...	4	4	—	—
Sanitary accommodation :				
Insufficient ...	—	—	—	—
Unsuitable or defective ...	12	12	—	—
Not separate for sexes ...	9	9	—	—
<i>Offences under the Factory and Workshop Acts :—</i>				
Illegal occupation of under- ground bakehouse (s. 101)	—	—	—	—
Breach of special sanitary re- quirements for bakehouses (ss. 97 to 100) ...	33	33	—	—
Other offences (excluding offences relating to outwork which are included in Part 3 of this Report) ...	—	—	—	—
Total	84	84	—	—

* Including those specified in sections 2, 3, 7 and 8 of the Factory and Workshop Act as remediable under the Public Health Acts.

* Standard of the Sanitary Accommodation Order, 4th February, 1903, is enforced. Section 22 of P.H.A.A. Act, 1890, has been adopted by the Council.

3.--HOMEWORK.

OUTWORKERS' LISTS, SECTION 107.													OUTWORK IN UNWHOLESOME PREMISES, SECTION 108.			OUTWORK IN INFECTED PREMISES, SECTIONS 109, 110.		
NATURE OF WORK	LISTS RECEIVED FROM EMPLOYERS						PROSECUTIONS.		In-stances served.	Prose- cutions made (S. 110), 109, 110)	In-stances	Orders made (S. 110), 109, 110)	Prose- cutions (Sects 109, 110)					
	Sending Twice in Year			Sending Once in Year			Notices served on Occupiers as to keep- ing or sending lists. (8)	Failing to keep or permit in- spection of lists. (9)						Failing to send lists. (10)				
	Lists (2)	Con- tract's (3)	Work- men. (4)	Lists (5)	Con- tract's (6)	Work- men. (7)												
(1)	*70	31	173	7	6	3	13	—	—	1	—	—	—					
Wearing Apparel—*	—	—	—	—	—	—	—	—	—	—	—	—	—					
(1) making, &c.	—	—	—	—	—	—	—	—	—	—	—	—	—					
(2) cleaning and washing	—	—	—	—	—	—	—	—	—	—	—	—	—					
Household linen ..	—	—	—	—	—	—	—	—	—	—	—	—	—					
Lace, lace curtains and nets...	—	—	—	—	—	—	—	—	—	—	—	—	—					
Curtains & furniture hangings	2	14	5	—	—	—	—	—	—	—	—	—	—					
Furniture and Upholstery ..	3	2	1	2	—	3	—	—	—	—	—	—	—					
Electro-plate ..	—	—	—	—	—	—	—	—	—	—	—	—	—					
File making ..	—	—	—	—	—	—	—	—	—	—	—	—	—					
Brass and brass articles	—	—	—	—	—	—	—	—	—	—	—	—	—					
Fur pulling ..	—	—	—	—	—	—	—	—	—	—	—	—	—					
Cables and chains ..	—	—	—	—	—	—	—	—	—	—	—	—	—					
Anchor and grapnels	—	—	—	—	—	—	—	—	—	—	—	—	—					
Cart gear...	—	—	—	—	—	—	—	—	—	—	—	—	—					
Locks, latches and keys	—	—	—	—	—	—	—	—	—	—	—	—	—					
Umbrellas, &c. ...	—	—	—	—	—	—	—	—	—	—	—	—	—					
Artificial flowers ..	—	—	—	—	—	—	—	—	—	—	—	—	—					
Nets, other than wire nets	—	—	—	—	—	—	—	—	—	—	—	—	—					
Tents ..	—	—	—	—	—	—	—	—	—	—	—	—	—					
Sacks ..	—	—	—	—	—	—	—	—	—	—	—	—	—					
Racquet and tennis balls	—	—	—	—	—	—	—	—	—	—	—	—	—					
Paper bags and boxes	—	—	—	—	—	—	—	—	—	—	—	—	—					
Brush making ..	—	—	—	—	—	—	—	—	—	—	—	—	—					
Pea picking ..	—	—	—	—	—	—	—	—	—	—	—	—	—					
Feather sorting ..	—	—	—	—	—	—	—	—	—	—	—	—	—					
Carding, &c., of buttons, &c.	—	—	—	—	—	—	—	—	—	—	—	—	—					
Stuffed toys ..	—	—	—	—	—	—	—	—	—	—	—	—	—					
Basket making ..	—	—	—	—	—	—	—	—	—	—	—	—	—					
Chocolates and Sweetmeats...	—	—	—	—	—	—	—	—	—	—	—	—	—					
C saques, Christmas crackers,	—	—	—	—	—	—	—	—	—	—	—	—	—					
Christmas stockings, &c. ...	—	—	—	—	—	—	—	—	—	—	—	—	—					
Textile weaving ..	—	—	—	—	—	—	—	—	—	—	—	—	—					
TOTAL	75	47	179	9	6	6	13	—	—	1	—	—	—					

* Two lists sub-divided.

4—REGISTERED WORKSHOPS.

Workshops on the Register (s. 131) at the end of the year.						Number
1						2
Bakers ...	...	...	...	...	...	75
Dressmakers and Milliners ...	...	...	...	...	...	156
Tailors ...	...	...	...	...	...	105
Bootmakers and Saddlers ...	...	...	...	...	...	72
Laundries ...	...	...	...	...	...	82
Carpenters and Builders ...	...	...	...	...	...	58
Cabinet Makers and Upholsterers ...	...	...	...	...	...	31
Coachbuilders ...	...	...	...	...	...	14
Watchmakers, &c. ...	...	...	...	...	...	13
Kitchens and Restaurants ...	...	...	...	...	...	38
Metal Workers ...	...	...	...	...	...	39
Cycle Builders and Motor Works ...	...	...	...	...	...	35
Miscellaneous ...	...	...	...	...	...	60
						<hr/> 778

5—OTHER MATTERS.

Class.	Number
1	2
<i>Matters Notified to H.M. Inspector of Factories :—</i>	
Failure to affix Abstract of the Factory and Workshop Acts (s. 133) ...	10
Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Acts (s. 5, 1901)—	
Notified by H.M. Inspector ...	24
Reports (of action taken) sent to H.M. Inspector...	24
Other ...	0
<i>Underground Bakehouses (s. 101) :—</i>	
Certificates granted during the year ...	0
In use at the end of the year ...	5

TABLE III. (L.G.B.)

Causes of, and Ages at Death during the year 1913.

Causes of Death.			Nett Deaths at the subjoined ages of "Residents" whether occurring within or without the District.									Total Deaths whether of "Residents" or "non-Residents" in Institutions in the District.
			All ages.	Under 1 year.	1 and under 2 years.	2 and under 5 years.	5 and under 15 years.	15 and under 25 years.	25 and under 45 years.	45 and under 65 years.	65 and upwards.	
All Causes	Certified	...	867	86	16	22	20	40	113	188	382	38
	Uncertified	...	...	...	...	...	...	...	...	...	...	...
Enteric Fever	...	...	...	...	...	...	...	...	...	...	...	...
Small Pox	...	...	...	...	...	...	...	...	...	...	...	...
Measles	...	...	2	...	1	1	...	...	...	...	...	...
Scarlet Fever	...	...	1	1	...	...	...	...	...	...	...	1
Whooping Cough	...	...	9	3	3	1	1	...	...	1	...	...
Diphtheria and Croup	...	...	4	2	...	1	1	...	...	...	...	6
Influenza...	...	...	23	2	...	2	1	1	...	1	16	...
Erysipelas	...	...	...	...	...	...	...	...	...	...	...	...
Phthisis (Pulmonary Tuberculosis)	...	...	100	2	1	...	...	16	60	17	4	29
Tuberculous Meningitis	...	...	6	...	...	1	4	1	...	...	...	1
Other Tuberculous Diseases	...	...	9	...	1	...	1	1	2	3	1	3
Cancer, malignant disease	...	...	84	...	...	...	...	1	13	30	40	29
Rheumatic Fever	...	...	1	...	...	...	...	...	1	...	...	2
Meningitis	...	...	12	1	...	1	2	...	...	4	4	1
Organic Heart Disease	...	...	91	1	...	2	...	3	5	25	55	7
Bronchitis	...	...	46	2	...	...	...	...	1	11	32	...
Pneumonia (all forms)	...	...	51	15	2	3	4	4	3	8	12	6
Other diseases of Respiratory Organs...	...	...	12	...	...	...	...	2	1	5	4	...
Diarrhoea and Enteritis	...	...	5	2	2	...	...	...	...	1	...	2
Appendicitis and Typhlitis	...	...	6	...	...	1	...	...	1	3	1	9
Cirrhosis of Liver	...	...	12	...	...	...	...	...	...	6	6	1
Alcoholism	...	...	3	...	...	...	...	...	...	2	1	...
Nephritis and Bright's Disease	...	...	32	...	...	...	...	1	1	17	13	7
Puerperal Fever	...	...	2	...	...	...	...	1	1	...	...	...
Other accidents and diseases of Pregnancy and Parturition	...	...	5	1	1	...	...	...	3	...	...	1
Congenital Debility and Malformation, including Premature Birth	...	...	36	36	...	...	...	...	...	...	...	2
Violent Deaths, excluding Suicide	...	...	13	3	...	...	...	...	2	5	3	7
Suicide	...	...	6	...	...	...	...	1	...	4	1	1
Other Defined Diseases	...	...	274	12	4	9	5	8	17	43	176	41
Diseases ill-defined or unknown	...	...	22	1	1	...	1	...	2	4	13	2
			867	84	16	22	20	40	113	190	382	158

A. D. EDWARDS

Medical Officer of Health.

COUNTY BOROUGH OF BOURNEMOUTH

ANNUAL REPORT

OF THE

BOROUGH BACTERIOLOGIST

For the Year ending 31st December, 1913.

TO THE MAYOR AND TOWN COUNCIL,
BOURNEMOUTH.

Gentlemen,

I herewith beg to submit to you my Annual Report concerning the duties entrusted to me as Bacteriologist for the County Borough of Bournemouth.

During the past twelve months I have made 1,830 bacteriological and other investigations, which is an increase of 636 as compared with the previous year.

The examinations in question consisted of:—

Sanitary Hospital Swabs	...	...	...	...	842
Borough "Free" Swabs	...	...	...	...	18
School Bacteriology (Education Department)—					
Swabs	...	...	...	...	658
Examinations for "Ringworm"	...	...	...	...	179
Samples of Milk, re Tuberculosis	...	...	...	...	52
do. General Examination	...	...	...	...	52
Samples of Ice Cream	...	...	...	...	12
Sundry Pathological Examinations	...	...	...	...	17
					<hr/>
					1830

The distribution of these investigations throughout the various months of the year shows very marked fluctuations. The highest number was 281 examinations for September, the lowest, 81 for March.

The following is a complete monthly list:—

In January	...	103	examinations were made.
February	...	107	„
March	...	81	„
April	...	142	„
May	...	102	„
June	...	184	„
July	...	233	„
August	...	86	„
September	...	281	„
October	...	129	„
November	...	153	„
December	...	229	„

The large increase in the number of bacteriological examinations for 1913, as compared with 1912, was principally due to the greater requirements of

(1) The Sanitary Hospital, which shows an increase of 123 examinations; and

(2) The Education Department, which shows an increase of 536.

It is a curious fact that although the diphtheria case rate was higher for 1913 than it has been for several years, the demand for “Free Swab” examinations by Medical Practitioners, was considerably below the average.

Of course a large proportion of the cases were associated with the Elementary Schools, and were detected in the earliest stages of the disease, by the inspection system of the School Medical Officer; of these the private Practitioner would probably see very few. ,But in addition to those mentioned

medical men must have frequently seen a number of throat cases of a doubtful nature, amongst the poor; and it was especially for such cases that the Council, several years ago, gave facilities to medical men to have throat swabs examined free of charge. I can only surmise that it is not universally known by the Profession that they are entitled to these gratuitous bacteriological examinations in necessitous cases.

In each of my Annual Reports during the past twelve years, I have referred to the Milk Supply, and commented adversely upon the frequency of dirty milk. But during the period mentioned, very little real progress has been made in the direction of much needed reforms.

Throughout the country, dirty milks are more commonly met with than clean ones; and although the milk of Bournemouth is infinitely better than that of most towns, there is still room for improvement.

The principal factor of contamination in milk is cow manure, and it is an exception to find a milk perfectly free from it. These facts are well known, and various means have been suggested to prevent pollution, but the results are very disappointing. A high proportion of the milks examined are still found to contain a considerable quantity of the offensive matter referred to, which is not only objectionable, but deleterious, as it rapidly induces putrefactive changes.

I think every one with practical experience of the Milk Question, must agree with the views expressed last year by the Medical Officer of Health for Bournemouth, namely, that a constant supply of clean milk will never be attained until a really good Pure Milk Act is passed, and worked in co-

operation with a Central Control of all milk supplies.

During the past year no Tubercle Bacilli were found in 52 samples of Bournemouth milk examined for that particular purpose. Of 52 samples submitted to general examination, 28 were good, and 24 were tainted with varying quantities of cow manure or other impurities.

The Ice Creams sampled during 1913 gave results very similar to those examined in previous years. Some of the ices sold are fairly good, many are doubtful, and a considerable number are definitely bad.

This class of food stuff is, of course, very liable to undergo decomposition, especially when necessary precautions are ignored—and it may be asked whether it is possible to make Ices which will conform to the requirements of Public Health Authorities. I maintain that it is not only possible but easy, with a moderate amount of intelligence and care. Cleanliness is the main secret, and must be rigidly carried out as regards premises, persons, utensils, and ingredients. In addition, there should be an established rule making it compulsory on the part of the vendor, to destroy all Ice Cream material not sold on the day made; this would prevent stale material being re-frozen and sold the following day.

The possible dangers associated with Ice Creams are not infrequently ridiculed and scoffed at by a section of the public; and expressions of sympathy are heard for Ice Cream vendors, owing to the unappreciated attention given to them by Public Health Authorities. The scoffers would be wiser if they made themselves acquainted with the misfortunes of certain towns where serious out-

breaks of illness have occurred, with disastrous results, through the agency of Ice Creams. And I am quite sure if the public knew all the circumstances and risks involved, and realised what a calamity a similar visitation would be to our town, they would acknowledge the wisdom of a keen supervision regarding the manufacture and sale of Ice Cream in Bournemouth.

In conclusion, I should like to take this opportunity of acknowledging my indebtedness to the Medical Officer of Health, for his kind assistance and co-operation on many occasions.

I remain, Gentlemen,

Your obedient Servant,

F. J. TANNER,

Borough Bacteriologist.

COUNTY BOROUGH OF BOURNEMOUTH.

Sanitary Inspector's Department,
March, 1914.

TO THE MAYOR AND TOWN COUNCIL OF THE
COUNTY BOROUGH OF BOURNEMOUTH.

Mr. Mayor and Gentlemen,

I have the honour to submit for your consideration the Annual Report of work carried out by this Department for the year ending December 31st, 1913.

The progress of the sanitary inspection of the Borough has been well maintained throughout the year, 2,265 houses have been inspected and brought up to the standard of Regulations for the House to House Inspection, as adopted by your Authority.

954 Notices were served, and the owners of these properties have loyally supported the requests of your Sanitary Committee, the works have been well carried out, and without any subsequent formal proceedings being necessary.

The "insanitary tenant" is again much to the front, and even in the recently improved dwellings of the working and poorer classes the dirty habits and wilful negligence of the tenants are a continuous source of trouble and expense to the owners. Special legislation is urgently needed for this class, who soon become well-known to the District Sanitary Inspectors.

If these well-known, and undesirable tenants could be placed on a "black list," and their dwellings periodically visited and household cleanliness enforced on the tenant, by law, some real improvement could, perhaps, be made possible.

At present the owner of such tenements is often uselessly put to great expense and trouble, in dealing with, or getting rid of this class of tenant.

KEEPING OF POULTRY.

In making a house-to-house inspection of the Borough a common cause of nuisance is found from the improper keeping of poultry near to the dwelling house. The fowlhouse generally consists of rough wooden sheds, and the runs and roosting places are damp, dirty, and fouled by the droppings of the birds. Fowls kept under such conditions are often thin, emaciated, and unhealthy as evidenced by the condition of the combs, wattles, and feathers. If the recent theory is correct that fowls are responsible for a great deal of the tuberculosis in cattle on farm lands, due to the stalks of grass becoming infected, it is more important than ever that poultry kept near to dwelling houses in confined premises should be kept under the best sanitary conditions possible.

In all cases where fowlsheds are found built on the prescribed air space as required by the Building By-laws, instructions are given to the occupier to remove the sheds.

RATS AND BEETLES.

Many complaints have been received during the past year as to premises being infested with rats and beetles. From the inspections made, the remedy in the majority of cases can be found by the

removal of all waste food, rubbish, garbage, empty boxes, etc., which attract and harbour these pests. The instructions of the Sanitary Committee, that the Disinfectors shall attend to such complaints from householders, have proved of great benefit not only in rendering the properties more sanitary, but in educating and advising careless tenants as to the importance of greater cleanliness.

CLEANSING OF PREMISES.

The practice, in the smaller houses and tenements, of papering walls of dwelling rooms on the top of existing papers has been checked, where notices have been served for the cleansing and purifying in the house-to-house inspection work, and after cases of infectious illness. Unfortunately this practice is much more common than is supposed, and it behoves every householder to enforce the precaution of "stripping" the walls of all old papers when the house is being re-decorated, particularly where the estimates given are below the average.

DIRT IN FOOD.

It is of importance in the interests of public health that householders and the public generally should be asked to strongly support the efforts of your Authority in requiring that certain vendors should take reasonable precautions in protecting from dust, flies, etc., the food supplies exposed for sale outside their premises. Certain fruits such as tomatoes, apples, cherries, etc., can be washed, but others such as dates, figs, and moist articles cannot. Your Authority issued a circular last summer on this question, and in some cases the suggestions have been adopted, but in others no improvement has been made.

Public opinion is usually in advance of legislation, and it is only by specially calling attention to these questions that an improved change will be effected. The conditions of the Food Supplies being so exposed are not allowed in other countries; why should we in England be so negligent?

Section 46 of the Sanitary Code for New York deals with this question as follows:—

“No breadstuffs, cake, pastry, sliced fresh fruits, candies, confectionery, or other perishable food products, except those that are peeled, pared, or cooked before consumption shall be kept, sold, or offered for sale, or displayed outside any premises in the City of New York, or in any street or public place, unless they be kept so covered that they shall be protected from dust, dirt, flies, and other contamination. Even if the present generation be careless and not educated up to the advantages of reasonable precautions to secure cleanliness of food supplies, it is necessary that the rising generation should be taught the lesson, for each year our food supplies are being more and more obtained from other countries, and are therefore more liable to contamination in transit, storage, etc.

The recent watchword, “Wake up, England!” would seem to be specially applicable to this phase of the food questions of our country.

The following special subjects have been dealt with during the year of your Authority:—

Shops Act, 1912, administrative work.
 Employment of Children, ditto.
 Drainage of properties in Moordown District.
 Piggeries, Charminster District.
 Nuisances on Public Footpaths.
 Fox Cottages, 1 to 4 Closure.

Rights-of-Ways.

Additional Public Convenience Accommodation, the Lansdowne Crescent, Boscombe Gardens, Richmond Park, and Southbourne Districts.

Flooding Reports due to abnormal storms in May.

Preservatives in Milk and Cream.

Tuberculous Meat.

By-laws for means of escape in case of Fire at Workshops.

FACTORY AND WORKSHOP ACTS, 1901-1907.

The total number of workshops and work-places now registered in the Borough is 778, a decrease of 18 on last year.

During the year 45 new workshops have been registered, 50 workrooms have been measured, and cards, re cubic space, etc., have been supplied to the occupiers.

In all cases where nuisances have been found to exist, notices have been given to the owner or occupier of the premises to remedy the defects, and it is very satisfactory to be able to report that in every case the nuisance has been abated without legal action.

During the year 1,343 inspections, including Bakehouses and Restaurants, have been made and 42 notices have been served.

The question of framing Bye-laws for the more efficient provision of fire escape in case of work-shops and work-places situated on and above the first storey of premises is still in abeyance awaiting approval of the Local Government Board. Two specially large premises were granted Certificates under the Act.

The Occupation Cards have been revised and all are now brought up to date.

The following is the list of workshops on the register at the end of the year, classified according to trade, and showing the number of rooms occupied:—

Trade.	Premises Registered.	Rooms Occupied.
Bakehouses ...	75	77
Dressmakers and Milliners ...	156	220
Tailors ...	105	136
Bootmakers and Saddlers ...	72	75
Laundries ...	82	192
Carpenters and Builders ...	{ 48 10	{ 56 11
Cabinet-makers and Uphol- sterers ...	31	45
Coachbuilders ...	14	31
Watchmakers, etc....	13	18
Kitchens of Restaurants, etc.	38	38
Metal Workers, etc. ...	39	49
Cycle-builders and Motor Works ...	35	39
Miscellaneous ...	60	91
Total ...		1048

BAKEHOUSES.

Of the 75 bakehouses occupied in the Borough five are occupied as underground bakehouses and the remainder are on, or above, the ground level.

All the underground bakehouses are certified by your Authority to be suitable (as regards light, ventilation, construction, etc.) to be used as bakehouses.

In two bakehouses structural alterations have been carried out, and the work supervised by this Department.

The whole of the bakehouses in the Borough have been cleansed or limewashed twice during the year, in accordance with the requirements of the Act.

Two hundred and forty-five visits have been made to these premises during the year.

KITCHENS OF RESTAURANTS, Etc.

These premises, 38 in number, have been inspected, and in no instance was it found necessary to serve notice requiring the abatement of nuisance.

Seventy-six inspections have been made, and special attention has been given to the cleanliness of the larders, tables, and cooking utensils, and these have been found to be satisfactory.

HOMEWORK.

During the year 75 lists containing the addresses of 173 "Outworkers" have been received.

Twenty-two of these addresses were outside of the Borough, and the usual particulars were sent to the Authorities of the District in which the work was done.

Four addresses were received from outside Authorities.

One hundred and sixty-seven visits were made to out-workers' premises, and in only one instance was it found necessary to serve a notice for the abatement of nuisance.

Thirteen employers of out-workers failed to send in their List of Out-workers at the specified time. In each case verbal warning was given by the Inspector, and the requirements were subsequently complied with.

SHOPS ACT, 1912.

During the year 1,316 visits have been made to shops in the Borough under this Act. In numerous cases the Exemption Notice, under the second schedule, the Assistants' Weekly Half-holiday Notice, under section 1, and Young Persons' Notice, under section 2, were not found to be affixed as required by the Act.

In most cases a verbal warning was sufficient, the requirements being subsequently complied with. Fourteen letters of warning were sent. In one case proceedings were taken and a conviction obtained, and a fine of 15s. including costs was imposed.

Special inspections with regard to the sale of non-exempted goods on the half-day of closing have been made, and in 4 cases letters of warning were sent.

In one case only, was a non-exempted shop found open on the half-day of closing, and proceedings were enforced. A fine of 10s. including costs was obtained.

One petition for Closing Order has been presented to your Council during the year; but no action was taken as the requisite majority was not received.

Special night inspections have been made under the Hairdressers' and Barbers' Closing Order. In three cases a letter of warning was necessary

regarding Exemption Notice and closing at the specified hour.

STREET TRADING. By-laws under the Employment of Children Act, 1903, have been adopted by your Authority and enforced since June 24th, 1912.

Fifty-nine evening and Sunday inspections have been made. Eighty-nine boys were found working in contravention of the Bye-laws and verbally warned; 81 letters of warning were sent to the Parents.

In the case of five children, the parents of whom had been previously warned, legal proceedings were taken and fines of 1s. were enforced. One Employer was dismissed with a caution.

No. of Badges issued in 1912	....	76
Do. ,, ,, 1913	...	89
Do. returned in 1913	...	53
Total No. out at end of 1913	...	125
Junior Boys transferred to Senior		
List ...	...	20
Badges lost ...	...	10

A deposit of sixpence has been paid by each Licensee.

EMPLOYMENT IN SHOPS, ETC. Thirty-two premises have been visited with regard to the employment of children; 18 boys were found working in contravention to the Bye-laws. In all instances warnings by letter have been sent to the parents and employers.

EMPLOYMENT IN PLACES OF ENTERTAINMENT. During the year 6 copies of licences have been received under the Prevention of Cruelty to Children Act, 1904, as to children appearing in public entertainments. On each occasion the place of entertainment was visited and the conditions of

the licence enforced, which necessitated 8 evening and 8 matinee inspections being made by the Inspector.

REGISTRIES FOR FEMALE DOMESTIC SERVANTS.

The number of the premises on the Register at the end of the year was 25.

During the year, business has been discontinued at 3 premises, and 3 new offices have been registered.

Forty-two visits have been made to the premises for the purpose of ascertaining whether the provisions of the Bye-laws relating thereto were complied with.

In 6 cases the records were found not to be in order, and letters of warning were sent in all instances, which have since been attended to.

In one instance, on private enquiries being instituted, a doubtful system of trading was detected and reported to the Police Authorities.

SMOKE NUISANCES.

During the year general inspections of the Borough have been made of special premises, such as bakehouses, laundries, factories, etc., for the detection of nuisances arising from black smoke, and where found necessary observations of 60 minutes' duration were made.

In no case has it been found necessary to take formal action.

DAIRIES, COWSHEDS, AND MILK SHOPS ORDERS.

Three hundred and thirty inspections have been made of cowsheds, dairies, and milk purveyors in the Borough, and the regulations relating to cleanliness, limewashing, and general sanitation have been enforced. Registrations have been made during the year for the sale of milk from milk shops.

The half-yearly limewashing of premises has in every instance been carried out after notice given by your Inspector.

There are only five cowsheds in the Borough.

GENERAL INSPECTION OF FOOD SUPPLIES.

During the year 5,788 visits were made to shops in the Borough for the inspection of Meat and Food Supplies and in respect to the cleanliness of premises and stores.

These duties are now carried out by the two Food Inspectors, Messrs. W. Pearce and L. Howarth.

Special attention has been paid to the inspection of meat, and that such regular and uniform inspection is undoubtedly an important question affecting the general health of the Borough is proved by the table appended.

By arrangement with the retail trade, early morning inspections of meat are made before the carcasses are "weighed in" by the butcher in cases where the carcasses have been slaughtered outside the Borough.

The wholesale fruiterers and greengrocers still follow out the system adopted in 1911 as to the sale

of “ throw outs ” sold to the hawkers, but notwithstanding the valuable assistance given, it has been found necessary to keep a strict supervision of the goods sold from hawkers’ barrows. During the year proceedings have been instituted and convictions recorded against three persons for exposing for sale diseased and unsound food.

As the result of a special inspection and report of Fruiterers’ and Grocers’ Shops where moist and dried fruits, sweets, and other articles usually eaten uncooked, and which were found to be exposed to a risk of contamination by dust, etc., from the public highways, your Authority decided to forward the following circular to all such premises :—

[COPY.]

Town Clerk’s Office,

Bournemouth, 12th July, 1913.

Dear Sir,—

I am instructed by the Sanitary Authority to call the attention of Fruiterers and Greengrocers in the Borough to the desirability of storing all moist and dried Fruits, such as are usually eaten uncooked (e.g., strawberries, raspberries, grapes, raisins, figs, and dates) in such a way that there shall be no risk of contamination by dust from the highway.

Yours faithfully,

(Signed) HERBERT ASHLING,

Town Clerk.

The following quantities of meat and other foods were destroyed as diseased or unsound and unfit for human consumption :—

	lbs.
Butchers' Meat (diseased) ...	4152 $\frac{1}{4}$
,, ,, (unsound) ...	806
Fish and Poultry ...	1257
Fruit and Vegetables ...	26980
Miscellaneous—	
Dripping ...	100
Sausages ...	7
Biscuits ...	24
Ice Cream ...	1 gal.

The following is a classified summary of the Food Purveyors' premises visited:—

Butchers' Premises ...	3745
Fishmongers and Poulterers ...	901
Greengrocers ...	364
Grocers ...	312
Ice Cream Vendors' Premises ...	89
Hawkers' Carts ...	156
Other Premises ...	221
	<hr/>
	5988

SLAUGHTER-HOUSES.

There are six slaughter-houses in the Borough.

During the year 816 inspections have been made and the regulations as to periodical lime-washing, cleansing, etc., carried out.

The Master Butchers' Association is quite alive to the importance of securing a complete inspection of the slaughtering of animals by the Officials of your Authority and have rendered valuable assistance to this end during the past year in calling attention to doubtful and diseased carcasses.

It is satisfactory to report that in our Borough the Master Butchers insist on their employees using proper and suitable instruments for slaughtering, and in taking all reasonable precautions to secure

the humane slaughtering of animals by up-to-date methods.

Regular and systematic inspection proves the necessity of your Authority having the power to enforce that all animals slaughtered outside the Borough boundary should be deposited at a Clearing House before distribution for retail in butchers' and meat purveyors' shops.

Such an arrangement would be an assurance to the public and also be of benefit to the meat trade generally.

The butcher who buys doubtful meat from outside and is prepared to run the gauntlet would not then be able to so unfairly compete with the honest butcher as he can at present.

Special attention has been given to the inspection of pigs. Strict inspection clearly proves that it is essential, both for reasons of the Public Health and the pig trade generally, that all carcasses should be carefully examined before being offered for sale.

Magisterial proceedings were instituted as to tuberculous meat being exposed for sale in one case.

Under your Authority the following letter was sent to the Secretary of the Master Butchers' Association with a Special Circular giving the signs of Tuberculosis in the carcass and organs. I have much pleasure in bearing testimony to the courteous and helpful assistance of the President and officials of the Master Butchers' Association in bringing to the notice of the Members the importance of the exposure of diseased meat and their individual responsibility.

[COPY.]

County Borough of Bournemouth.

Dear Sir,—

In view of the recent cases of tuberculous meat exposed for sale, which have been brought to the notice of the Sanitary Committee, I beg to call your attention to the enclosed Circular, which has been prepared by the Chief Sanitary Inspector, pointing out the signs of the disease in dressed carcasses, also to ask you to kindly circulate the copies herewith enclosed among the Members of your Association and others interested in the Trade, with the request that should they become possessed of doubtful meat notice should at once be given to Meat Inspectors in the Sanitary Department.

It is important to your Trade and also to the general public that every precaution should be taken by Master Butchers, Slaughtermen, and Employees generally to prevent doubtful meat being exposed for sale.

The Members of the Sanitary Authority and the Officials of the Health Department ask the kind and earnest co-operation of the Members of your Association in the supervision of Meat Supplies of the Borough, and that a copy of the enclosed Circular may be kept by your Secretary for any future reference.

I remain,

Yours faithfully,

HERBERT ASHLING,
Town Clerk.

Hon. Secretary Master Butchers' Association,
Poole Road, Westbourne,
Bournemouth.

By Order of the Health Committee.

STABLES AND MEWS.

During the summer months systematic inspections were made of the above premises with the view of minimising the nuisance and danger of the Common House Fly.

The best preventive work for the extirpation of this nuisance is that your Local Authority should enforce compliance of the Bye-law to the removal of manure once a week and, on receipt of instructions from the Committee this has been done, particularly from May to October.

The following circular was sent to Jobmasters and Owners of Stables in the Borough:—

Sanitary Inspector's Office,
Richmond Hill,
Bournemouth.

June, 1913.

Dear Sir,—

In the interests of the public health of the Borough, the Mayor and Town Council, acting as the Sanitary Authority for the County Borough of Bournemouth, request that you will, during the hot months of the year (May to October) cause all accumulations of stable manure to be removed from your premises at least once a week as required by the Nuisance Bye-laws.

Also that you will arrange for all such receptacles to be thoroughly emptied and cleansed at each removal.

By Order of the Health Committee.

NOTE.—All trade refuse or waste liable to putrefaction, such as fat, bones, garbage, fish offal, etc., should be removed daily from the premises.

PRIVATE SCHOOLS.

An inspection of the Private Schools in the Borough has been made with the view of detecting overcrowding of Class Rooms and ascertaining the sanitary condition of the premises generally.

The total number of schools in the Borough is 53, comprising 168 rooms. The number of scholars in attendance is about 1,780.

HOUSE-TO-HOUSE INSPECTION.

The five District Sanitary Inspectors acting under instructions are proceeding with the House-to-house inspections after the usual daily routine work has been attended to.

The owners of properties are still loyally supporting your Authority's demands, and up to the present time all the notices served have been complied with and no prosecution has been found necessary.

(1) Number of houses closed, the owners having elected to do so voluntarily pending the necessary structural alterations being made	...	...	6
(2) Total number of houses inspected	2265		
(3) Total number of Notices served to remedy defects ascertained	...	954	
(4) Total number of Notices complied with	...	...	779
(5) Total number of Notices outstanding	...	...	175

NOTE.—In 107 cases the works are in hand at time of writing this Report.

DETAILED PARTICULARS OF REPAIRS,
ETC., EXECUTED IN MAKING THE
HOUSE-TO-HOUSE INSPECTION.

	District No. 1.	District No. 2.	District No. 3.	District No. 4.	District No. 5.	Total.
(1) Water Supply.						
(a) Taps provided direct from main 	21	61	32	30	116	260
(b) Storage water cisterns cleansed and covered ...	40	11	49	11	21	132
(c) Defective water fittings repaired and put in order	26	0	9	4	31	70
(2) Closet Accommodation.						
(a) New w.c. basins provided	15	68	28	21	57	189
(b) W.C.'s repaired or cleansed 	41	33	45	39	45	203
(c) W.C.'s provided with an effective flush of water	62	0	34	29	4	109
(3) Drainage.						
(a) Main Drains provided with fresh air inlets ...	28	0	25	49	60	162
(b) Drains repaired or cleared from obstruction ...	59	2	31	28	65	185
(c) Soil and ventilating pipes repaired 	17	79	25	17	55	193
(d) New drains provided ...	0	111	15	20	43	189
(4) General Conditions as to Light, Ventilation, Cleans- ing, and Dampness.						
(a) Passages and Staircases provided with additional light 	4	5	11	0	0	20
(b) Rooms provided with additional ventilation ...	9	21	23	7	112	172
(c) Rooms, etc., cleansed and purified 	237	45	139	84	286	791

(d) W.C. walls repaired and cleansed or provided with light and ventilation ...	62	98	55	8	21	244
(e) Leaky roofs repaired or made sound ...	40	56	53	33	88	270
(f) Defective eaves, gutters, and stackpipes repaired or renewed ...	58	45	29	38	55	225
(g) Cavity walls cleared from obstruction to remedy dampness ...	18	0	20	13	45	97
(h) W.C.'s and outbuildings provided with eaves, gutters, etc. ...	19	75	20	12	103	229

(5) Ashbins.

(a) Ashbins or Ashboxes provided ...	13	35	7	0	17	72
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(6) General Defects.

(a) New sink provided in lieu of defective brick and cement ...	7	61	20	6	30	124
(b) Sink waste pipes trapped and made to discharge below iron gratings ...	28	70	34	32	184	348
(c) Houses provided with ventilation under floors	11	49	34	12	45	151
(d) Floors repaired and made sound ...	39	10	58	40	106	253
(e) New food stores provided	8	0	29	0	0	37
(f) Windows, doors, grates, etc., repaired ...	5	10	36	7	26	84
(g) Houses where windows were provided with new sash lines ...	37	5	23	0	36	101
(h) Nuisances abated from overcrowding ...	2	0	0	1	0	3

DISTRICT SANITARY INSPECTORS' SUMMARY OF WORKS.

1.—NUISANCES.

	District No. 1.	District No. 2.	District No. 3.	District No. 4.	District No. 5.	Total.
Complaints received and attended to	78	237	85	113	103	616
Number of Tests made for detec- tion of nuisances ...	16	17	36	48	61	178
Visits <i>re</i> abatement of nuisances	306	171	371	451	496	1795
General Inspections of District	10	15	30	4	17	176
Premises inspected	59	136	466	41	50	752
Number of Nuisances detected...	56	60	87	92	61	356
Total number of nuisances abated... ..	66	60	101	92	96	415
Total number of nuisances abated outstanding end of Dec., 1913	1	6	4	2	—	13

2.—INFECTIOUS DISEASE.

Enquiries for Reports to M.O.H.	50	138	21	64	45	318
Premises tested	24	31	4	15	36	110
„ not tested	35	54	11	49	9	158
„ with defects ascertained	18	11	1	11	25	66
Nuisances detected	18	24	1	14	25	82
„ abated	21	28	1	9	21	80
Nuisances outstanding ...	2	2	—	5	4	13
Total No. of Visits	296	296	37	112	68	809
Total number rooms disinfected	56	132	33	78	52	251
Total number books disinfected	26	39	16	29	13	123
Rooms disinfected after Phthisis	71	64	39	53	65	292
Rooms disinfected after other non-notifiable disease ...	24	9	30	81	34	178
Number of school notices sent out	111	218	3	44	55	431

3.—NEW BUILDINGS.

Water tests	...	...	258	168	39	108	69	643
Number of re-tests	...	...	16	6	1	3	4	30
Smoke tests	...	...	139	117	17	52	25	350
Number of re-tests	...	...	5	—	1	4	2	12
Total visits...	...	...	313	377	58	186	112	1046
Number of reports made to B. I. re details of defects ascer- tained...	...	...	83	58	1	9	4	155

4.—PRIVATE INSPECTIONS.

Premises Inspected and Tested	48	26	100	47	58	289
Subsequent Water Tests ...	18	43	54	27	69	211
„ Smoke „ ...	9	44	52	25	52	182
Visits <i>re</i> Supervision of Works	362	116	601	335	422	1836
Total Visits ...	410	266	807	434	459	2376
Reports outstanding end of Dec., 1913 ...	11	9	9	9	12	50

5.—HOUSE-TO-HOUSE INSPECTION OF DISTRICTS.

Total No. of Premises inspected	629	74	512	533	517	2265
„ Notices served ...	231	9	145	220	349	954
„ „, complied with	218	10	93	192	266	779
„ „, works in hand	11	9	29	11	47	107
„ not commenced at end of Dec., 1913	9	5	23	17	36	90
„ of notices verbal for abatement of nuisances ...	29	3	1	6	—	52
Number of tests ...	25	—	54	55	167	301
„ visits ...	1222	96	1185	1024	2015	5542

WINTON DRAINAGE.

No. of Plans deposited, &c.	...	...	82
„ Water tests	...	...	110
„ Smoke tests	...	...	66
„ Visits	...	...	827

DISINFECTION.

NOTIFIABLE DISEASE.

No. of Articles removed from Dwellings ...	...	...	650
„ „ Disinfected at Hospital ...	...	...	6184
„ Wards „ „ „ ...	...	...	136
„ Times Drains flushed at Hospital ...	...	...	114
Special Visits by Inspector ...	...	...	143

NON-NOTIFIABLE DISEASE.

No. of Articles Disinfected after Phthisis ...	...	...	66
„ „ „ „ other non-notifiable Diseases ...	...	...	917
Special Visits by Inspectors ...	...	...	69
No. of Articles destroyed ...	...	...	249

COMMON LODGING-HOUSES.

There are only two registered common lodging-houses in the Borough.

The premises in both instances have been kept in clean and satisfactory condition, and no case of infectious disease has been notified.

The general supervision of these premises is under the control of the Police.

FRIED FISH SHOPS.

There are now 14 of these shops in the Borough, and from time to time inspections have been made as to the cleanliness of premises, soundness of fish supplies and ingredients used in the trade.

The register for these premises has been revised during the year.

INFECTIOUS DISEASE.

During the year 317 reports, as per under-mentioned table, have been made to the Medical Officer of Health as to infectious cases notified.

The drainage and sanitary arrangements of the premises have been examined and tested, and 81 preliminary notices have been served on the owners and occupiers for the abatement of nuisances ascertained.

These notices have in all cases been complied with satisfactorily.

The house drainage and sewers have also been flushed and disinfected where necessary.

In cases nursed at home the District Inspector leaves a pamphlet form of suggestions at the house, giving particulars as to nursing, disinfection, penalties, etc.

REPORTS OF INFECTIOUS CASES.*

Scarlet Fever	...	27	54	13	24	25	143
Diphtheria	...	22	71	6	34	13	146
Typhoid Fever	...	—	—	1	2	1	4
Erysipelas	...	3	2	3	9	6	23
Puerperal Fever	...	1	—	—	—	—	1
Continued Fever	...	—	—	—	—	—	—
Totals reported		53	127	23	69	45	317
Houses with defects							
ascertained		18	11	1	11	25	66

* Include Observation and Quarantine Cases.

POKESDOWN NEW SEWERS.

The following new sewers have been constructed in the Pokesdown and Southbourne district:—

Keswick Road, Boscombe Manor Estate.
Seafield Road, Extension.

The sewage from the cesspools emptied has been carted to Strouden Farm and utilized on agricultural land.

CESSPOOL DRAINAGE AT WINTON AND MOORDOWN.

During the past year the following works have been executed in connection with the emptying of cesspools in the above-named districts:—

Number of cesspools emptied ...	...	150
Number of loads of sewage removed ...	...	431
Number of cesspools condemned and filled in ...	... ..	98

The emptying of cesspools in the Winton and Moordown District is now practically completed. There are only 25 houses with cesspool drainage, and these are situated principally in the lower parts of Moordown and in roads that cannot at present be sewered owing to existing levels of sewers

The cesspool cart (Merryweather's Patent Vacuum cart) was at work 116 days during the year.

POKESDOWN DISTRICT.

There are 15 cesspools in the District of Tuckton and Wick which require periodical attention:—

Number of cesspools emptied ...	...	24
Number of loads of sewage removed ...	...	70
Number of cesspools filled in ...	...	Nil

Expenditure.

	£	s.	d.
Two horses at 10s. per week for 4 months	16	0	0
Three Corporation men at 26s. per week for 4 months ...	36	8	0
Painting and repairing cart ...	5	10	0

Two lengths new suction hose	...	14	4	6
Oil, Disinfectant and Coke	...	5	0	0
		<hr/>		
		77	2	6
		<hr/>		

PIGGERIES.

Periodical inspections have been made of the piggeries in this district.

At present there are 13 piggeries at which 85 pigs are kept.

These are situated in the outlying parts of the district at Moordown and are kept in conformity with the bye-laws.

One piggery has been removed during the year.

Four complaints have been received and attended to.

POKESDOWN DISTRICT.

Number of piggeries	...	...	...	15
Number of pigs kept when last inspection was made	...	...	...	136

All the piggeries are situated in the rural parts of the District and with one exception are in conformity with the bye-laws.

ROAD CATCHPITS, HOUSE REFUSE REMOVAL, ETC.

A number of complaints were received in District 2 during the year as to nuisances from road catchpits and on investigation the offence was found to arise from tradesmen (principally butchers and fishmongers) who after washing the floors, etc., of their business premises were in the habit of throw-

ing the shop waste water in the public street catch-pits instead of the yard drains on their own premises.

Verbal warnings and circular letters served on the shop keepers had the desired effect.

The public sewers have been periodically flushed and disinfected, especially in the narrow rights-of-way and at dead ends of the sewers. The pneumatic exhaust cart fitted with hose pipes has been found of great use for this purpose.

In this large and scattered district house refuse removal is an important and expensive item. At present your Authority have eight carts daily at work and the average daily removal of refuse to the Refuse Destructor is 28 loads.

But few complaints were received during the year.

PUBLIC MORTUARY.

The Public Mortuary, built at the Central Dépôt, was opened on March 28th, 1907.

There are three separate buildings, comprising the Coroner's Court, Mortuary, and Post-Mortem Room, all of which are fitted with the latest and most up-to-date arrangements. The general supervision of the premises is under the control of this Department, and printed Regulations as to the general management have been drawn up by your Sanitary Committee and sent to all the Medical Men and Undertakers in the Borough.

From January 1st, 1913, to December 31st, 1913, the total number of Inquests was 58 and Post-Mortems 42.

The total cost as to working expenses for the year 1913, so far as this Department is concerned, is as follows:—

	£	s.	d.
Proportion of Attendants' wages for daily cleansing	11	7	11
Attendance at Inquests and Post- Mortems	19	15	0
Gas from December 19th, 1912, to December 19th, 1913, includ- ing meter rent and upkeep of burners	2	1	3
Disinfectants, Soap, Laundry, etc.	0	11	9
	<hr/>		
	£33	15	11
	<hr/>		

N.B.—The water supply for the Mortuary, etc., is taken from the main supplying the Central Depôt and is not separately charged.

CERTIFIED CAUSE OF DEATH.

Suffocation	2
Syncope	3
Asphyxia	7
Wound in throat (self-inflicted) ...	2
Fracture of skull	6
Inattention at birth	2
Lead Poisoning	1
Heart failure	5
Fracture of ribs	2
Bronchial pneumonia	2
Laceration of brain	1
Hemorrhage of the lungs	1
Internal hemorrhage	2
Cerebral Hemorrhage	2
Fatty Degeneration of heart	5

Premature Birth	...	...	...	1
Cardiac failure	...	...	...	3
Shock (due to being run over by train)				3
Blood poisoning	...	...	...	1
Dropsy	...	...	...	1
Rupture of heart	...	...	...	1
Unknown causes	...	...	...	2

PUBLIC CONVENIENCES.

Working expenses of Public Conveniences
from December, 1912, to December, 1913:—

	£	s.	d.
Repairs to conveniences	...	114	14 10
Wages paid to attendants	...	553	14 3
Gas and water, and hire of meters and automatic controllers	...	169	14 1
Disinfectants, Soap, Brushes Laundry Work, etc.	...	51	4 8
		889	7 10
Total Receipts	...	1388	14 10
„ Expenditure	...	889	7 10
Balance	...	499	7 0

HOTEL CONVENIENCES.

At the Hotels and Public-houses where the conveniences are accessible to the general public the arrangements made by your Authority are still in force and continue to work satisfactorily.

WATER METERS.

The following is a comparative statement of the consumption of water supplied by the Gas and Water Company to your Authority for the years 1912 and 1913:—

Situation of Meter.			Consumption in 1912.	Consumption in 1913.
Cabstand, Littledown Road	...	...	7,000	2,700
" St. Swithun's Road	...	...	9,100	15,900
" Waverley Road	...	...	8,200	6,300
Fire Station, Holdenhurst Road	...	...	76,000	78,500
Cabstand, Meyrick Road	...	...	12,300	16,700
" Madeira Road	...	...	22,000	21,700
Borough Offices	...	...	160,000	139,200
Yelverton Chambers	...	...	31,100	24,200
West Gardens Tennis	...	...	12,200	20,700
Corporation West Yard	...	...	123,600	24,900
Wharf Road Depot	...	...	56,600	59,400
Drinking Trough, Chine Road	..	..	89,400	86,700
Cabstand, Durley Road	..	...	6,900	3,700
" West Cliff Road	..	...	20,300	15,300
" No. 1 West Cliff	...	..	22,400	18,100
" Exeter Road	..	...	1,800	2,300
West Fire Station	..	...	34,800	41,800
Mess Room, Westover Gardens	..	..	26,300	28,700
Engine House in Gardens	..	...	1,037,000	968,400
Lansdowne Drinking Trough	..	..	61,700	58,800
Cabstand, Charnminster Road	..	..	7,600	5,800
Cemetery, Wimborne Road	...	..	77,800	142,600
The Refuse Destructor	..	...	288,200	436,200
Alum Chine Cliff Gardens	..	..	15,000	29,600
Cabstand, Gervis Road	...	...	4,000	3,900
" Derby Road	..	...	5,800	7,800
Knyveton Road	...	...	2,800	2,900
Boseombe Gardens	..	..	32,000	63,200
East Yard	..	...	494,500	583,100
Cabstand, Spa Road	..	..	9,900	10,600
" Adeline Road	..	...	9,000	7,300
" Palmerston Road	..	...	3,300	3,300
Boseombe Depot	..	...	110,000	119,600
King's Park	..	...	181,900	271,200
East Cemetery	...	...	60,000	68,000
Sanitary Hospital	...	..	709,400	850,200
Parkwood Road	..	Flushing Meters	78,800	68,400
Queensland Road	...	" "	17,400	17,200
Rosebery Road	...	" "	11,300	13,900
Clarence Park Road and Fountain	..	" "	23,400	15,900
Stourwood Avenue	...	" "	—	100
Clifton Road	..	" "	42,500	52,800
Stourwood Road	..	" "	6,800	10,500
Fountain, Parkwood Road	...	..	51,600	46,900
Boseombe Cliff Gardens	..	...	35,100	68,100
Wharneliff Road	...	...	8,800	7,700
Electric Car Sheds	...	...	198,200	168,300
Knyveton Gardens	..	..	26,800	30,900

	Consumption in 1912.	Consumption in 1913.
Meyrick Park Pavilion and Mr. Curtis' Workshop ..	115,300	96,600
*Golf Clubs, and Caddies' Shelter	150,100	257,600
Bourne Avenue Cabstand	30,700	36,300
Urinal, Westbourne	76,600	69,300
„ Triangle	107,500	120,000
„ Bourne Avenue	90,200	109,500
Ladies' Lavatory, Exeter Lane	106,500	157,300
Winter Gardens	376,200	489,600
Urinals, facing Pier	290,400	380,600
The Pier	308,800	230,900
„ (Special for Boats)	124,000	120,000
Urinal and Cabstand, The Westover ..	303,100	351,900
Urinal and Cabstand, Firs Glen	95,500	115,500
„ Lansdowne Crescent	113,800	147,200
Urinal and Fountain, Boscombe Gardens...	165,300	164,400
Urinal, Carnarvon Crescent	108,700	96,700
Gervis Road Drinking Trough	17,800	19,500
Bowling Green, Meyrick Park	23,400	29,000
Christchurch Road Dépôt	66,200	72,400
West Refreshment Rooms (recoverable) ...	41,000	59,900
East Refreshment Rooms (recoverable) ..	46,500	64,200
Poole Hill Urinal	51,000	52,300
Alum Chine	275,800†	207,900
Durley Chine... ..	30,700	28,200
Boscombe Pier	63,100	51,400
The Square, for watering lines	5,400	6,200
Queen's Park Caddies' Shelter	21,600	20,900
Winton Recreation Grounds	73,500	82,000
Boscombe Refreshment Rooms (recoverable)	6,900	7,500
Pokesdown Tram Sheds	99,000	98,200
Argyll Gardens	30,200	59,900
Fountain, East Beach	17,700	19,000
Fountain, West Beach.. ..	8,700	8,800
Moordown Car Sheds	6,200	900
Queen's Park Golf Pavilion (recoverable)	138,600	127,300
Queen's Park Golf Links	177,900	187,600
East Beach Convenience	264,400	378,500
West Beach Convenience	239,900	301,600
East Cliff Urinal	10,800	14,500
Queen's Park Rifle Range	600	1,700
Nursery, King's Park	7,700	5,500
Alum Chine Refreshment Room (recoverable)	12,700	14,400
Durley Chine Refreshment Room (recoverable)	9,000	10,000
Pavilion, Winton Recreation Ground ..	12,600	15,200
Cromwell Road Urinal.. ..	5,700	8,500
Durley Road Gents.	11,100	11,200
King's Park Cricket Pitch	2,100	3,600
Mess Room facing Southeote Road ..	113,800	103,700
Lavatories near Cemetery	123,500	58,200
Boscombe Beach Boat House	2,400	20,300
† Fisherman's Walk Convenience.. ..	—	56,600
† Holdenhurst Road Gents' „	—	59,000
† Sanitary Offices	—	30,200
Total ..	8,938,800	9,978,900

† New Meters.

*This meter supplies Bournemouth Golf Club and Meyrick Park Golf Club, which are recoverable.

The total decrease on the various meters since the system of checking the meters has been in force is 8,278 900 gallons, an average gain of 919,877 gallons per annum.

The above list does not include the meter for Electric Generating Station, as the water used for the boilers since June, 1904, has been obtained from artesian well. The consumption of water from the Company's supply for the nine years is as follows:—

1905	1906	1907	1908	1909	1910	1911	1912	1913
4,000	6,000	12,000	138,000	7,000	11,000	36,000	13,000	600,000

The increases in 1908, 1911, and 1913 were due to defective pump for artesian well.

STATEMENT OF ACCOUNTS.

Accounts rendered for:—

	£	s.	d.
Sanitary Inspections	261	9	0
Maintenance of Patients at the Sanitary Hospital	539	19	5
Conveyance of Patients to Sanitary Hospital and collecting and re- turning articles disinfected ...	18	12	6
Disinfection after Non-notifiable disease	64	9	8
Cleansing of w.c.'s, etc., at Public Elementary Schools	72	0	0
Meter checking at Public Elementary Schools	9	0	9
Rat Catcher's services	14	1	0
Ambulance Hire	3	3	0
Cleansing Hotel Urinals	26	0	0
Amount recovered for water used by Contractors at Refuse Destructor, Winton Dépôt and East Yard ...	1	0	0
Special Removal of Refuse	0	17	6

Repairs executed at Spring Road School	0	13	0
Works executed at Fox Inn Yard and Lowther Road Hospital ...	42	1	3
Clearing and Cleansing Drains at Bridle's Terrace, "Roseneath," Capital and Counties Bank, 36, Christchurch Road, Richmond Terrace, Grand Hotel, and Bournemouth Arcade	5	10	1
Book supplied under Midwife's Act ...	0	3	6
Disinfectants supplied	0	10	0
Emptying Cesspools	7	3	3
Sundries	0	7	11

SALE OF FOOD AND DRUGS ACTS, 1875-1907.

During the Year 1913.

Inspectors:

No. 1 District ... William Pearce.
No. 2 District ... Lawrence Howarth

During the year 1913 four hundred samples of foods and drugs were obtained, of which number three hundred samples were formally purchased or "taken" in accordance with the provisions of the Acts, and one hundred samples were purchased informally and submitted as "test samples" to the Analyst.

Of 400 samples 344 or 86 per cent. were reported genuine; 34, or 8.50 per cent., poor or doubtful quality; and 22, or 5.50 per cent., adulterated or in some way deficient.

		1912		1913	
		Adulterated per cent.	Poor or doubtful per cent.	Adulterated per cent.	Poor or doubtful per cent.
Official	...	12.33	10.66	6.33	10.33
Unofficial	...	7.07	8.08	3.00	3.00
Total	...	11.03	10.02	5.50	8.50

In addition to these samples two hundred and forty-one samples of milk were taken, chiefly from consignments in course of delivery to local dairy-men, and submitted to the "Gerber Test" by your Inspectors.

Tables showing the various articles analysed during the year, with the results of analyses, will

be found in the Public Analyst's Report, Tables II. and III.

MILK.

One hundred and eighteen samples of milk were officially purchased or "taken" and submitted to the Public Analyst, who reported adversely upon seven of the samples. Of the adulterated samples, two were deficient in non-fatty solids, four were deficient in milk-fat, and one sample contained traces of a coal tar dye. Legal proceedings were instituted in respect of three of these samples, convictions being recorded in two cases, and the third case being dismissed. Warnings were given to four vendors. No sample was reported to contain preservative.

Two hundred and forty-one samples were submitted to the "Gerber Test" by your Inspectors; with the exception of twelve of these samples, which were handed in by private purchasers, the whole of the samples were taken from consignments of milk in course of delivery to dairymen in the town. In eleven cases the quality of the supplies was found to fall below the minimum requirements of the Board of Agriculture and letters of warning were sent to the producers.

For the detection of the poorer supplies, and subsequent administration regarding them, these examinations are of increasing utility.

BUTTER.

Forty-seven samples of butter were purchased during the year, fifteen of this number being purchased as "test samples." Three of these latter contained water in excess of the maximum limit of 16 per cent., but the official samples by which they were followed proved genuine.

CREAM.

Eighteen samples of cream and ten of preserved cream were submitted for analysis, and four of the samples of cream were found to contain boric acid in contravention of the Public Health (Milk and Cream) Regulations, 1912. Letters of warning were sent to the vendors of the four adulterated samples, and, under your Authority, a circular letter drawing attention to the provisions of the Regulations was sent to all dairymen and cream vendors.

COCOA, TEA AND COFFEE.

A representative number of the various brands of these articles were purchased and all proved genuine on analysis.

SPICES.

Of thirteen samples of ground spices (cloves, cinnamon, nutmeg, ginger and mace) only one was reported upon adversely. This was a sample of ground cloves, which was found to consist of clove stalks.

NON-ALCOHOLIC WINES.

Ten samples of so-called "British Wines" were purchased—seven being preservatised. Three samples contained salicylic acid in excess of the recommendations of the Departmental Committee, 1901.

DRUGS.

Thirty samples of drugs, including castor oil, camphorated oil, ammoniated tincture of quinine and cream of tartar, were sent to the Analyst, and it was found necessary to address warnings to the vendors of two samples of ammoniated tincture of quinine respecting the strength of this drug.

PRESERVATIVES AND COLOURING MATTERS.

The following table shows the number of articles analysed during 1913, which were reported by the Analyst to contain some preservative or colouring matter:—

No. of samples analysed.	No. containing Preservative.					
	Article.	Boric acid.	Sulphurous Acid.	Salicylic Acid.	Colour.	Remarks.
OFFICIAL SAMPLES.						
118	Milk	—	—	—	73	71 contained annatto colouring ; 2 samples contained a coal-tar dye.
2	Separated Milk	—	—	—	1	Annatto colouring.
18	Cream	4	—	—	—	0·15 to 0·27 per cent, (in contravention of the Public Health (Milk & Cream) Regulations).
9	Preserved Cream	9	—	—	—	0·14 to 0·37 per cent.
32	Butter	12	—	—	—	0·12 to 0·35 per cent.
12	Margarine	5	—	—	—	0·11 to 0·25 per cent.
10	Non-Alcoholic Wines	—	7	—	3	0·23 to 4·37 grains per pint.
3	Fruit Cordials & Syrups	—	2	—	3	0·9 and 1·0 " " "
11	Sausages	5	—	—	—	0·09 to 0·30 per cent.
UNOFFICIAL SAMPLES.						
15	Butter	3	—	—	—	0·15 to 0·43 per cent.
7	Sausages	2	—	—	1	0·22 and 0·28 per cent ; magenta colouring.
2	Dried Fruit	—	—	2	—	Merest traces.
1	Preserved Cream	1	—	—	—	0·25 per cent.
1	Lemonade Powder	—	—	—	1	Yellow coal-tar dye.
4	Custard Powder	—	—	—	4	Orange and methyl orange dyes.
5	Jellies	—	—	—	3	Diamond yellow and methyl rosin dyes.
3	Blanc-Mange Powder	—	—	—	3	Diamond yellow, rosin, and a coal tar dye.
		—	—	—	—	
253		41	9	2	92	

LEGAL PROCEEDINGS.

Three summonses were taken out during the year. In two cases convictions followed, one case being dismissed. In each case the proceedings were

instituted in respect of samples reported against by the Public Analyst; there were no offences other than adulteration.

Legal Proceedings Instituted in Respect of Samples
Reported Against by Public Analyst.

Sample No.	Article.	Nature and extent of adulteration.	Result of Legal Proceed- ings.	Fines.			Costs.		
				£	s.	d.	£	s.	d.
20	Milk.	Added water 4.2 per cent.	Conviction.	0	8	6	0	16	6
21	Milk.	Added water 3.65 per cent.	Conviction.	0	8	6	0	16	6
22	Milk.	Deficient in milk fat to the extent of 0.32 per cent.	Summons dismissed.						

I have much pleasure in testifying to the loyal and ready help rendered by the Inspectors and Staff in carrying out the various duties of the Department, and beg to thank the Chairman, Vice-Chairman, and Members of the Sanitary Committee for their assistance, in considering the questions raised by the Reports presented.

I have the honour to remain,

Mr. Mayor and Gentlemen,

Your obedient Servant,

WM. GEO. COOPER,

Chief Sanitary Inspector.

COUNTY BOROUGH OF BOURNEMOUTH.

ANNUAL REPORT

— OF THE —

PUBLIC ANALYST

For the Year ending 31st December, 1913.

TO THE MAYOR AND TOWN COUNCIL,
BOURNEMOUTH.

Gentlemen,—

I have the honour of submitting for your consideration my Report on the samples of food and drugs sent to me for analysis during the year 1913.

The total number of samples was 400, of which 300 were official samples, taken under the provisions of the Food and Drugs Acts, and 100 were unofficial samples bought informally by your Inspectors or their agents.

The number of adulterated samples was 22, or 5.50 per cent., this being a large decrease upon last year, when the proportion was 11.03 per cent. The average proportion of adulterated samples during the previous five years was 8.62 per cent.

The poor or doubtful samples numbered 34, or 8.5 per cent. Last year there were 10.02 per cent., and the average for the last five years was 11.65 per cent.

Table II.

Summary of Annual Report, 1913. Three hundred official samples:—

Nature of Sample.				Examined.	Genuine.	Poor or Doubtful.	Coloured.	Containing Preservative.	Adulterated	Percentage adulterated
Milk	..	..	..	118	88	23	73	—	7	5.93
Separated Milk	..	..	..	2	2	—	1	—	—	—
Cream	..	..	..	18	14	—	—	4	4	22.2
Preserved Cream	..	..	..	9	9	—	—	9	—	—
Butter	..	..	..	32	32	—	—	12	—	—
Margarine	..	..	..	12	12	—	—	5	—	—
Lard	..	..	..	2	2	—	—	—	—	—
Dripping	..	..	..	3	3	—	—	—	—	—
Coffee	...	..	..	13	13	—	—	—	—	—
„ and Chicory	..	..	..	3	3	—	—	—	—	—
Tea	..	..	..	20	20	—	—	—	—	—
Arrowroot	..	..	..	2	2	—	—	—	—	—
Wine	..	..	...	2	1	1	—	—	—	—
Non-alcoholic Wine	..	..	..	8	4	1	3	7	3	37.5
Fruit Cordial and Syrup	..	..	..	3	2	—	3	2	1	33.33
Sausages	...	..	..	11	9	1	—	5	1	9.1
Ground Cloves	..	..	..	3	2	—	—	—	1	33.33
„ Cinnamon	..	..	..	5	5	—	—	—	—	—
„ Nutmeg	..	..	..	2	—	2	—	—	—	—
„ Ginger	..	..	..	2	2	—	—	—	—	—
„ Mace	..	..	..	1	—	—	—	—	—	—
Caraway Seeds	..	..	..	1	1	—	—	—	—	—
Raisins	..	...	..	8	8	—	—	—	—	—
Olive Oil	..	..	..	1	1	—	—	—	—	—
Castor Oil	..	...	...	4	4	—	—	—	—	—
Camphorated Oil	..	..	..	8	7	—	—	—	1	12.5
Camphor and Oil	..	..	..	1	—	—	—	—	1	100.0
Ammoriated Tincture of Quinine	..	..	..	6	4	2	—	—	—	—

300 250 31 80 44 19

The poor or doubtful samples numbered 40, or 10.02 per cent. Last year there were 14.87, and the average for the last five years was 12.2 per cent.

Nineteen of the adulterated samples were official and three unofficial, being 6.33 per cent. and 3.0 per cent. respectively, whilst 31 (of 10.33 per cent.) of the official samples and three (of 3.0 per cent.) of the unofficial samples were of poor or doubtful quality.

Table I. shows the comparison of these results with those of the previous nine years:—

Table I.

Year	Adulterated			Poor or Doubtful		
1904.	16·6	„	„	14·3	„	„
1905.	14·0	„	„	11·6	„	„
1906. (official)	9·0	„	„	13·3	„	„
„ (unofficial)	18·0	„	„	10·0	„	„
„ (total)	11·25	„	„	12·5	„	„
1907. (official)	8·0	„	„	14·0	„	„
„ (unofficial)	12·0	„	„	9·0	„	„
„ (total)	9·0	„	„	12·75	„	„
1908. (official)	7·0	„	„	12·0	„	„
„ (unofficial)	18·0	„	„	16·0	„	„
„ (total)	9·75	„	„	13·0	„	„
1909. (official)	4·33	„	„	13·72	„	„
„ (unofficial)	8·14	„	„	8·14	„	„
„ (total)	5·24	„	„	12·4	„	„
1910. (official)	7·38	„	„	9·73	„	„
„ (unofficial)	15·0	„	„	3·0	„	„
„ (total)	9·3	„	„	8·04	„	„
1911. (official)	8·0	„	„	16·0	„	„
„ (unofficial)	7·07	„	„	11·1	„	„
„ (total)	7·77	„	„	14·8	„	„
1912. (official)	12·33	„	„	10·66	„	„
„ (unofficial)	7·07	„	„	8·08	„	„
„ (total)	11·03	„	„	10·02	„	„
1913. (official)	6·33	„	„	10·33	„	„
„ (unofficial)	3·0	„	„	3·0	„	„
„ (total)	5·5	„	„	8·5	„	„

Tables II. and IV., and III. and V. show in greater detail the results obtained with the official and unofficial samples respectively.

Table III.

Summary of Annual Report, 1913. One hundred official samples:—

Nature of Sample.				Examined.	Genuine.	Poor or Doubtful.	Coloured.	Containing Preservative	Adulterated	Percentage adulterated
Milk	..	..	..	1	1	—	—	—	—	—
Butter	..	..	...	15	12	—	—	3	3	20·0
Preserved Cream	..	..	..	1	1	—	—	1	—	—
Curd Milk Cream	..	..	...	1	1	—	—	1	—	—
Lard	...	...	..	12	12	—	—	—	—	—
Cocoa	..	..	..	16	16	—	—	—	—	—
Dimenara Sugar	..	..	...	1	1	—	—	—	—	—
Dried Fruits	...	...	...	2	2	—	—	2	—	—
Ground Almonds	..	..	..	11	11	—	—	—	—	—
Biscuits	..	..	..	1	1	—	—	—	—	—
Sausages	..	..	...	7	1	3	1	2	—	—
Lemonade Powder	..	..	..	1	1	—	1	—	—	—
Custard	..	..	..	4	4	—	1	—	—	—
Blanc-Mange	..	..	..	3	3	—	3	—	—	—
Pudding	..	..	..	2	2	—	—	2	—	—
Jellies	...	..	..	5	5	—	3	—	—	—
Jelly Crystals	..	..	..	1	1	—	—	—	—	—
Olive Oil	..	...	..	2	2	—	—	—	—	—
Salad Oil	...	..	..	2	2	—	—	—	—	—
Sardines	...	..	..	1	1	—	—	—	—	—
Cream of Tartar	...	...	...	11	11	—	—	—	—	—
				100	94	3	12	8	3	—

Tables IV. and V. show details of the adulterated samples.

Table IV.

Adulterated official samples:—

No.	Nature of Sample.		Nature of Adulteration.	Observations.
20	Milk	..	4·2 per cent. added Water	Conviction, 25s. including costs.
21	..	..	3·65 per cent. „ „	Conviction, 25s. including costs.
22	„	..	10·6 per cent. deficient in Cream	Case dismissed.
64	„	..	17·5 per cent. „ „	Letter of warning sent.
142	„	..	Traces of coal-tar dye	Warning given.
253	..	..	3 per cent. deficient in cream	Letter of warning sent.
312	„	..	45·5 per cent. „ „	Vendor warned.
136	„	...	Boric acid 0·15 per cent.	Letter of warning sent.
137	..	...	Boric acid 0·27 per cent.	Letter of warning sent.
138	„	..	Boric acid 0·26 per cent.	Letter of warning sent.
141	„	..	Boric acid 0·19 per cent.	Letter of warning sent.

6	Pure Raspberry Syrup and Cordial	Was a solution of invert sugar in water, acidulated flavoured and coloured to imitate raspberry.	No action taken.
7	Non-alcoholic Port Wine	A made-up "syrup" coloured with magnesia, and containing salicylic acid 3.75 grs. per pint	Vendor warned.
12	d°d° Orange Wine ..	A made-up "syrup" coloured with magnesia, and containing salicylic acid 4.37 grs. per pint	Vendor warned.
13	d°d° Raisin Wine ..	A made-up "Syrup" coloured with magnesia, and containing salicylic acid 3.75 grs. per pint	Vendor warned.
107	Sausages ..	Containing excess of boric acid 0.05 per cent.	No action taken.
73	Ground Cloves	Consisted of ground cloved stalks	Vendor warned.
238	Camphorated Oil ...	Deficient in camphor 72 per cent.	Vendor warned.
245	Camphor and Oil ..	Deficient in camphor 57½ per cent., hydrocarbon in place of olive oil	Vendor warned.

Table V.

Adulterated unofficial samples:—

No.	Nature of Sample.	Nature of Adulteration.	Observations.
17	Butter ..	Excess of water 0.9 per cent.	Test sample.
82	.. ..	Excess of water 0.64 per cent.	Test sample.
86	.. ..	Excess of water 12.1 per cent.	Test sample.

MILK.

Excluding the seven adulterated samples the average composition of the remaining 111 samples has been:—Milk fat, 3.53 per cent.; non-fatty solids, 8.91 per cent. Including the adulterated samples the averages were: 3.48 per cent. and 8.90 per cent. respectively. The proportion of fat has been rather larger than in 1912 (3.48 per cent.) and the amount of non-fatty solids slightly less (8.95 per cent.).

The averages for the four quarters of the year have been:—

	Samples 1912.	Fat.	S.N.F.	Samples 1913.	Fat.	S.N.F.
1st quarter ...	23	3.34	8.88	11	3.44	8.94
2nd „ ...	36	3.45	8.98	34	3.44	8.92
3rd „ ...	0	—	—	55	3.57	8.90
4th „ ...	24	3.63	8.97	11	3.65	8.92

The average for genuine milk is fat 3.75 per cent., S.N.F. 8.88 per cent.

The six samples which were deficient in fat or S.N.F. were as follows:—

	Added water.	Deficient in fat.
5 per cent. or under ...	2	1
Over 5 percent. but under 10 percent	0	0
Over 20 per cent. ...	0	1

No preservative could be detected in any of the samples.

BUTTER.

Of the 47 samples taken three proved to be adulterated, all of these being unofficial samples, and the adulteration in each case was excess of water, the excess in one case being large (12.1 per cent.). The average proportion of water in the 47 samples was 14.33 per cent., which is even greater than the average of last year (13.35 per cent.). In my last Annual Report I drew attention to the increasing amount of water found in butter; there can be no reasonable doubt that this is due to the adoption of a legal maximum, many makers using machinery to “work in” as much water as is safe. In this way the public may very easily be made to pay a charge of four or five per cent for water in butter beyond the normally present in well-made butter. The following table shows the proportions of water found in the samples taken in 1912 and 1913:—

				1912. Sixty-five samples taken.	1913. Forty-seven samples taken
Under 10 per cent. water	...	4	0		
„ 10—11 „ „	...	3	2		
„ 11—12 „ „	...	6	4		
„ 12—13 „ „	...	10	8		
„ 13—14 „ „	...	17	6		
„ 14—15 „ „	...	18	13		
„ 16—16 „ „	...	6	12		
Over 16 „ „	...	1	3		

The same evil influence of a standard is noticeable in the case of milk, of which a very large proportion of samples contain between 3.0 and 3.2 per cent. of fat (i.e., just above the legal minimum), although the *average* for genuine milk is 3.75 per cent. These facts lead one to look forward with some misgiving to the effect of any Act of Parliament on the lines of the “Pure Food Bill” which would lead to the setting up of “standards” for large numbers of articles of food and eventually, in all probability, of drugs also. Will the advantage of such standards compensate for the almost certain general lowering of value of the food supplies of the people? It seems to me most important that any such “standards” should make a clear distinction between articles which conform in composition to the *usual* limits of well made goods, and those which just “scrape through” a legal minimum of value, otherwise a general diminution in value is inevitable, and the manufacturer or vendor who strives to maintain the higher quality of goods will find it more and more difficult to secure a just remuneration for his honesty and care.

CREAM.

Eighteen samples of cream and ten of “preserved cream” have been submitted to me for analysis during the year, and of the former four

samples proved to be adulterated by the addition of borou preservative, which addition without declaration was declared to be an offence by the "Milk and Cream Regulations" of August 1st, 1912, which also enacted that such "boricised" cream must be sold only as "Preserved Cream," and must contain at least 35 per cent. of milk fat. The four samples in question contained .15, .19, .26, and .27 per cent. boric acid.

Although the samples of cream and preserved cream were taken under the "Food and Drugs Acts" and not specially under the provisions of the "Milk and Cream Regulations, 1912," I append a table showing results as required by the L.G.B. Circular "Milk and Cream, 2^o2."

1. *Milk and Cream not sold as Preserved Cream.*

			No. of Samples examined for preservative.	No. in which a preservative was reported to be present.
Milk	...	...	118	0
Cream	...	...	18	4

2. *Cream sold as Preserved Cream.*

No. of samples examined.	Statement of amount of preservative correct.	Containing above 35 per cent. milk fat.	Containing below 35 per cent. milk fat.	Containing thickening.
10	10	10	0	0

Of the 28 samples of cream and preserved cream only one contained less than 50 per cent. of milk fat (viz., 47.5 per cent.) and four samples contained upwards of 60 per cent., the average amount being 56.1 per cent. On reference to former results I find that in the last four years the smallest proportion of milk fat found in any sample was 46½ per cent. in 1909. So far as this borough is concerned it would appear, therefore, that the official suggestion that cream may legitimately contain less than

35 per cent of milk fat is calculated to induce vendors to very materially lessen the value of this important article of food.

MARGARINE.

The average proportion of water in the 12 samples was 13.4 per cent., being about one per cent. less than the average found in the samples of butter.

SAUSAGES.

Eighteen samples were examined, of which seven contained borous preservative in proportion varying from 0.09 per cent. to 0.30 per cent., two having very slightly more than the maximum allowable (.25 per cent.), and the average quantity present in the seven samples was 0.19 per cent. This is a great improvement upon former years, the comparison is shown below:—

Year.	No. of samples taken.	No. containing Bosom preservative.	Average proportion Boric Acid in the preserved samples.
1909	8	6	0.31 per cent.
1910	14	14	0.33 „ „
1911	27	16	0.36 „ „
1912	19	8	0.24 „ „
1913	18	7	0.19 „ „

It is satisfactory to note that the attention given to this articles by the Inspectors and the prosecutions which followed have resulted in this improvement.

CUSTARD POWDER, ETC.

The four samples of custard powder were all of the usual composition, viz., maize starch coloured

with a coal tar dye; the name "custard powder" is quite a misnomer, but has always been applied to a mixture of this character, hence proceedings under the Food and Drugs Acts would be doomed to failure. Obviously the so-called "custard" is quite unlike the genuine article made from eggs and milk. The "Blanc Mange Powders" consisted of maize starch (cornflour) with some sugar, flavoured and coloured yellow or red, being sold as lemon, vanilla, and raspberry "Blanc Mange."

CREAM OF TARTAR.

The results of analysis of eleven unofficial samples was very satisfactory, all of the samples except one containing over 98 per cent. of potassium bitartrate, none contained arsenic, two contained mere traces of copper, and the amount of lead varied from mere traces to 0.073 grain per lb., this figure being almost exactly one-half of the maximum amount allowable.

CAMPHORATED OIL.

Eight samples of camphorated oil were examined, and with one exception proved to be of full strength; the exception was deficient in camphor to the extent of $57\frac{1}{2}$ per cent. (9.05 per cent. instead of 21.3 per cent.) and hydrocarbon oil had been used in place of olive oil. A sample purchased as "camphor and oil" was also made with hydrocarbon oil, and the proportion of camphor was only 5.98 per cent. This preparation is sold in poor neighbourhoods as a cheap substitute for camphorated oil, hence it is only reasonable that it should correspond in *strength* with the oil it is intended to represent; by the use of hydrocarbon

oil, the cost price would be reduced to the extent of about 40 per cent.

I am,

Mr. Mayor and Gentlemen,

Your obedient servant,

R. A. CRIPPS.



CITY OF BRADFORD.

ANNUAL REPORT

OF THE

MEDICAL OFFICER

1913

BRADFORD

WM. BYLES & SONS LIMITED, PRINTERS PICCADILLY.

STATISTICAL SUMMARY.

Situation: Latitude 53·4 N.; Longitude 1·7 W.

Elevation: 251—1207 feet.

Area of City: 22,880 acres, or 35½ sq. miles.

Density of Population: 12·7 persons per acre.

Number of Inhabited Houses: 72,008.

Population: 288,458 (Census 1911).

290,540 (estimated to the middle of 1913).

Birth-rate: 19·62 per 1000.

Death-rate: Recorded, 15·11 per 1000.

Standardised, 15·94 per 1000.

Zymotic, 1·10 per 1000.

Phthisis, 1·04 per 1000.

Infantile Mortality, 128 per 1000 births.

Total Rainfall: 28·09 inches.

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HEALTH COMMITTEE.

THE RIGHT HONOURABLE THE LORD MAYOR.

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MR. COUNCILLOR H. T. PULLAN, Deputy Chairman.

MR. ALDERMAN HORSFALL,	MR. ALDERMAN A. PRIESTMAN,
„ R. JOHNSON,	„ G. H. ROBINSON,
„ A. PEEL,	„ H. M. TROTTER,
„ A. PICKLES,	„ W. WARBURTON,

MR. COUNCILLOR J. DRAKE,	MR. COUNCILLOR J. H. PALIN,
„ J. HARRISON,	„ L. J. PARKER,
„ O. HOLDEN,	„ E. PRIESTLEY,
„ S. KAY,	„ H. H. TETLEY,
„ J. MOSER,	„ D. WALKER,

and MR. COUNCILLOR H. WILMAN.

HEALTH SUB-COMMITTEES.

Accounts Committee :—

THE LORD MAYOR.

ALDERMEN—PEEL AND ROBINSON.

COUNCILLORS HARRISON, MOSER, PULLAN, SMITH, TETLEY,
D. WALKER, and WILMAN.*Housing Committee :—*

THE LORD MAYOR

ALDERMEN—HORSFALL, JOHNSON, PEEL, PICKLES, PRIESTMAN,
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THE LORD MAYOR.

ALDERMEN HORSFALL, JOHNSON, PICKLES, PRIESTMAN, TROTTER,
and WARBURTON.COUNCILLORS DRAKE, HARRISON, HOLDEN, KAY, PALIN, PARKER,
PRIESTLEY, PULLAN, and SMITH.

MEDICAL OFFICER'S DEPARTMENT,

TOWN HALL, BRADFORD,

1st July, 1914.

To the Chairman and Members of the Health Committee.

GENTLEMEN,

I have the honour to present to you the Annual Report of the Health of the City for the year 1913.

The Birth-rate for the year was 19·62 per 1,000 of the population, being an increase of 0·33 per 1,000 from that of 1912. The Birth-rate in Bradford is very low compared with that in other towns, although it has shown some tendency to rise during the last three years.

The Death-rate was 15·11 per 1,000, being an increase of 0·60 over that of the previous year. The Zymotic Death-rate was 1·10 per 1,000, an increase of 0·28, and the Infantile Mortality Rate was 128 per 1,000 children born, an increase of 30 per 1,000 above the rate of 1912. This was chiefly due to a severe epidemic of diarrhoea in the late Summer and Autumn. The Death-rate from pulmonary tuberculosis was 1·04, this rate being the lowest on record ; the rate in 1912 was 1·17 per 1,000.

Part of this report is also issued separately, and forms the annual report required by the Regulations of the Board of Education. There are other several important subjects specially dealt with, and attention

is directed to the parts referring to Tuberculosis, Infantile Mortality, and Housing.

It is pleasing to have to report the continued increase in the number of conversions of sanitary conveniences, referred to in Part XI. of the report.

It gives me great pleasure to report the excellent work done by all the members of the staff.

I have in conclusion to acknowledge with thanks the kindness and assistance which I have at all times received from the Chairman and Members of the Committee.

I am, Mr. Chairman and Gentlemen,

Your obedient servant,

JOHN J. BUCHAN,

Medical Officer of Health.

I.—VITAL STATISTICS.

(A) POPULATION.

The estimated population of the City at the middle of 1913 was 290,540. The population at the census of 1911 was 288,548, and that of 1901, 279,767.

The distribution and density of the population in the different wards of the City is seen in the following table :—

DISTRIBUTION AND DENSITY OF POPULATION.

Wards	Population, Census 1911	Estimated Population, 1913	Area of Wards in Acres	Person per Acre
Allerton	11,698	11,900	2864	4·2
Bolton	8,912	8,940	1001	8·9
Bradford Moor	23,037	23,650	680	34·8
East	16,629	16,520	385	42·9
East Bowling	17,771	17,810	565	31·5
Eccleshill	10,471	10,800	1221	8·8
Exchange	3,101	2,900	118	24·6
Great Horton	23,415	24,050	1289	18·7
Heaton	17,734	17,950	883	20·3
Idle	7,520	7,530	1693	4·5
Listerhills	16,142	15,850	321	49·4
Little Horton	16,389	16,630	425	39·1
Manningham	22,941	22,800	449	50·8
North	12,158	12,040	353	34·1
North Bierley East ..	12,013	12,100	2419	5·0
North Bierley West ..	10,109	10,020	1836	5·5
South	14,366	14,310	303	47·2
Thornton	5,544	5,540	2251	2·5
Tong	7,365	7,380	2659	2·8
West	10,035	9,600	162	59·3
West Bowling	21,108	22,220	1003	22·1
City	288,458	290,540	22,880	12·7

The average density of population varies therefore from 2·5 persons per acre in Thornton Ward to 59·3 in the West Ward. The average density of population in such a city as Bradford where a large part of the land is not built upon does not properly express the crowding of the people on the land.

From the estimate of population in the wards of the City it will be seen that there is a decrease of population in the East, Exchange, Listerhills, Manningham, North, North Bierley West, South, and West Wards. Generally, therefore, the population in the older and central parts of the City is decreasing, while in the surrounding newer parts it is increasing.

The natural increase of population, or the excess in the number of births over that of deaths during the intercensal period 1901-11 was 15,831, but the actual increase recorded by the census of 1911 was only 8,691. This means that during the intercensal period there was a net emigration from the City of 7,140 persons. The age and sex distribution of the population is given in the Table on page 12. The following table shows the percentage at each age period in Bradford as compared with England and Wales generally.

PERCENTAGE POPULATION ACCORDING TO AGE AND SEX.

Age Periods	Bradford			England and Wales		
	Males	Females	Total	Males	Females	Total
Under 5 years	4.2	4.1	8.3	5.4	5.3	10.7
5—15 „	8.3	8.6	16.9	10.0	10.0	20.0
15—25 „	8.4	10.1	18.5	8.8	9.2	18.0
25—45 „	15.1	17.9	33.0	14.3	15.7	30.0
45—65 „	8.4	10.1	18.5	7.7	8.4	16.1
65 „	1.9	2.9	4.8	2.2	3.0	5.2
Totals	46.3	53.7	100.0	48.4	51.6	100.0

It would appear from this table that there is a comparative shortage of young lives in Bradford, as only 8.3 per cent of the population is under five years, and only 25.2 per cent. under fifteen years, as compared with 10.7 per cent. under five, and 30.7 under fifteen years in England and Wales generally.

In Bradford 46.3 per cent. of the population are males and 53.7 per cent. females, the corresponding figures in England and Wales are 48.4 per cent. males and 51.6 females. The excess of females in Bradford is therefore higher than in the country generally, and it is particularly marked at the age periods after fifteen.

At the census of 1911 there were 155,678 persons unmarried ; the number of married persons at that time was 114,368, this being 39.6 per cent. of the total population, as compared with 36.4 per cent. in England and Wales.

POPULATION ARRANGED ACCORDING TO AGE AND SEX DISTRIBUTION.

	Males		Females	
Age Period	1911	1913	1911	1913
Under 1	2490	2508	2388	2405
1— 2	2325	2342	2297	2314
2— 3	2474	2495	2416	2433
3— 4	2508	2526	2339	2356
4— 5	2426	2443	2356	2373
5—10	11701	11785	12095	12182
10—15	12254	12342	12709	12801
15—25	24087	24261	29103	29313
25—35	23432	23601	28415	28620
35—45	20185	20331	23330	23498
45—55	14997	15105	17571	17698
55—65	9189	9255	11587	11670
65	5402	5441	8382	8442
All ages	133470	134435	154988	156105

The following statement shows the condition as to marriage in each sex per cent. of persons aged twenty years and upwards :—

	Males per cent.			Females per cent.		
	Unmarried	Married	Widowed	Unmarried	Married	Widowed
Bradford ..	27·3	66·8	5·9	31·7	55·4	12·9
England and Wales ..	30·7	63·3	6·0	30·2	57·9	11·9

It will therefore be seen that a larger percentage of males are married in Bradford than in England and Wales, but a smaller number of females ; there is however a larger proportion of widows in Bradford.

The number of inhabited houses in Bradford at the middle of 1913 is estimated at 72,008, which gives an inhabited house rate of 4·035 persons per house.

(B) BIRTHS.

The number of births registered in the 53 weeks ending January 3rd, 1914, was 5,811, of which 2978 were males and 2,833 females. This gives a birth rate for the year of 19.62 per 1,000, an increase of 0.27 per 1,000 from that recorded last year.

BIRTH RATE IN PREVIOUS YEARS.

	1905	1906	1907	1908	1909	1910	1911	1912	1913
Bradford ..	21.3	20.8	20.1	20.9	19.1	19.0	19.0	19.2	19.6
96 Great Towns ..	28.2	27.9	27.0	27.0	25.7	25.0	25.6	24.9	25.1
England & Wales ..	27.2	27.0	26.3	26.5	25.6	24.8	24.4	23.8	23.9

The birth rate in Bradford is very low compared with that in most other towns; it has however in the last three years shown some tendency to rise. The fall in the Bradford birthrate is shown on the chart following page 24 and in Table A, page 24.

Locally the birth rate varied from 15.56 in Exchange ward to 24.13 in East Bowling.

The births in each ward in the four quarters of 1913 are seen on the table on the following page.

BIRTHS IN WARDS IN EACH QUARTER OF 1913.

Wards	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Total.
Allerton	43	47	68	43	201
Bolton	35	44	35	35	149
Bradford Moor ..	141	128	133	129	531
East	99	90	88	90	367
East Bowling ..	113	96	94	136	439
Eccleshill	56	47	59	45	207
Exchange	13	8	14	11	46
Great Horton ..	83	99	104	101	387
Heaton	61	84	74	67	286
Idle	28	40	34	35	137
Listerhills	84	80	90	63	317
Little Horton ..	104	118	100	86	408
Manningham	118	115	113	119	465
North	67	66	74	72	279
North Bierley East ..	46	60	56	48	210
North Bierley West..	53	43	48	40	184
South	86	89	79	92	346
Thornton	21	23	24	27	95
Tong	34	32	38	34	138
West	44	48	66	72	230
West Bowling ..	91	108	97	90	386
City	1420	1465	1488	1435	*5811

* Three of these births were born outside the district, the home address in Bradford not being obtainable.

Illegitimacy. Of the 5,811 births registered during 1913, 311 or 5·4 per cent. were illegitimate. This rate is above the average of recent years.

ILLEGITIMATE BIRTHS.

	1907	1908	1909	1910	1911	1912	1913
Number	249	289	278	300	260	293	311
Percentage to Total Births ..	4·3	4·8	5·0	5·5	4·7	5·2	5·4

(C) DEATHS.

The total number of deaths occurring in Bradford in 1913 was 4,372, but after adding those deaths of Bradford persons occurring outside the city and deducting those occurring in the city of persons resident outside, the number becomes 4,474. The death-rate corrected for public institutions is therefore 15·11.

DEATH RATE IN PREVIOUS YEARS.

	1905	1906	1907	1908	1909	1910	1911	1912	1913
Bradford	15·3	16·2	14·7	15·7	14·6	14·3	15·0	14·5	15·1
96 Great Towns	15·7	15·9	15·4	14·9	15·6	14·3	14·0	14·6	14·7
England & Wales	15·2	15·4	15·0	14·7	14·5	13·4	14·6	13·3	13·4

The death rate for 1913 is therefore 0·6 per 1,000 above that of the previous year. The death rates for the past thirty years is seen on Table A, page 24. The average death rate per 1,000 for five-yearly periods from 1870 shows that the rate has been falling continuously from 25·9 to about 15 per 1,000.

AVERAGE QUINQUENNIAL DEATH RATES FROM 1870.

1871-75 .. 25.9	1891-95 .. 19.7	1911 .. 15.0
1876-80 .. 22.3	1896-1900 .. 17.9	1912 .. 14.5
1881-85 .. 19.9	1901-05 .. 16.3	1913 .. 15.1
1886-90 .. 20.9	1906-10 .. 15.1	

In making a comparison between death rates it is necessary to allow for differences in the age and sex distribution of the population. This is done by the application of a factor known as the "standardising factor" which corrects the death rate to the international standard of age and sex distribution—that of England and Wales at the census of 1901. The standardising factor is given for Bradford as 1.0550, so that the standardised death rate for Bradford in 1913 becomes 15.9 as compared with 13.1, the standardised death rate for England and Wales for the same year.

The deaths occurring in each Ward for each quarter of 1913 is seen on the Table on the following page. The birth and death rates and the natural increase per 1,000 living in each Ward is seen in the Table on page 19. It will be seen that the death rate has varied from 11.81 in the Heaton Ward, to 22.58 in the West Ward, and that the greatest natural increase of 9.53 per 1,000 has occurred in East Bowling Ward, while in Exchange Ward there has been a natural decrease of 3.72 per 1,000.

The death rate among the male population has been 16.4 and among the female population 14.0 per 1,000.

The death rate in Bradford compared with England and Wales is shown on the chart following, page 24.

DEATHS IN WARDS IN EACH QUARTER OF 1913.

Wards	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1913
Allerton	32	35	26	38	131
Bolton	29	19	17	31	96
Bradford Moor ..	66	60	62	68	256
East	49	49	32	54	184
East Bowling ..	43	46	51	62	202
Eccleshill	37	28	22	23	110
Exchange	12	7	5	22	46
Great Horton ..	80	54	37	60	231
Heaton	42	34	35	53	164
Idle	21	22	23	18	84
Listerhills	53	52	53	56	214
Little Horton ..	40	45	51	45	181
Manningham	67	82	66	80	295
North	36	32	36	43	147
North Bierley East ..	44	40	36	50	170
North Bierley West ..	34	32	37	33	136
South	41	43	41	55	180
Thornton	18	11	14	21	64
Tong	21	30	27	31	109
West	24	27	28	38	117
West Bowling ..	60	75	52	58	245
Public Institutions ..	288	240	298	286	1112
City	1137	1063	1049	1225	4474

NATURAL INCREASE OF POPULATION IN EACH WARD.

Wards.	Birth Rate per 1000	Death Rate per 1000	Natural increase per 1000 living
Allerton	16.57	12.37	4.20
Bolton	16.35	12.40	3.95
Bradford Moor	22.03	13.19	8.84
East	22.00	14.37	7.63
East Bowling	24.13	14.60	9.53
Eccleshill	18.80	12.72	6.08
Exchange	15.56	19.28	—3.72
Great Horton	15.80	11.99	3.81
Heaton	15.63	11.81	3.82
Idle	17.85	12.51	5.34
Listerhills	19.62	19.25	0.37
Little Horton	24.08	15.47	8.61
Manningham	20.01	16.05	3.96
North	22.73	20.05	2.68
North Bierley East	17.03	15.32	1.71
North Bierley West	18.02	15.67	2.35
South	23.72	18.44	5.28
Thornton	16.82	12.75	4.07
Tong	18.35	17.68	0.67
West	23.51	22.58	0.93
West Bowling	17.04	13.73	3.31
City	19.62	15.11	4.51

Mortality at Different Ages. The following Table shows the total deaths in each age group during the past six years.

NUMBER OF DEATHS IN EACH YEAR AT DIFFERENT AGE PERIODS.

Ages	1908	1909	1910	1911	1912	1913
Under 1 year	854	638	695	765	553	741
1— 2 years	240	147	208	161	136	152
2— 5 ,,	169	138	158	153	119	105
5—15 ,,	138	126	124	145	146	133
15—25 ,,	203	175	165	185	180	163
25—45 ,,	608	557	525	630	599	584
45—65 ,,	1143	1182	1106	1150	1156	1253
over 65 ,,	1224	1247	1135	1162	1313	1343

It will be noted that the number of deaths has increased from that of last year in the age periods up to two years, and over forty-five years, and decreased in age periods from two years to forty-five years.

Infantile Mortality. There were 741 deaths of infants under one year of age which gives an infantile mortality rate of 128 per 1,000 births.

INFANTILE MORTALITY IN PREVIOUS YEARS.

	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913
Bradford	167	144	152	124	143	116	127	140	99	128
Great Towns	160	140	155	127	128	118	115	140	101	117
England & Wales	146	128	133	118	121	109	106	130	95	109

A full discussion of infantile and child mortality will be found on pages 60—80 of this Report.

Mortality between one and sixty-five years. The number of deaths between these ages in 1913 was 2,390 which gives an annual death rate per 1,000 living at these ages of 8·6. The corresponding rates in the Great Towns and England and Wales were 8·2 and 7·5 per 1,000 living.

Mortality over sixty-five years. There were 1,343 deaths of persons aged sixty-five and upwards which gives an annual death-rate per 1,000 living of 98·1. The corresponding rates in the Great Towns and England and Wales for 1913 were 84·1 and 80·3 per 1,000 living.

Deaths in Public Institutions. In 1913, 1,112 deaths of Bradford residents occurred in Public Institutions, or 22·6 per cent. of the total deaths.

DEATHS IN PUBLIC INSTITUTIONS.

Name of Institution.	1912	1913
Bradford Union Hospital	511	525
North Bierley Union	50	65
Giggleswick Union	6	2
Other Poor Law Institutions	5	5
Menston Asylum	46	46
Wakefield Asylum	4	1
Storthes Hall Asylum	1	13
Scalebor Park Asylum	5	2
Other Asylums	4	5
Royal Infirmary.. ..	187	200
Children's Hospital	70	108
Eye and Ear Hospital	4	9
St. Catherine's Home	7	18
Leeds Infirmary	3	1
Leeds Road Hospital	76	97
Bierley Hall Hospital	2	1
Thornton Joint Hospital	2	—
North Bierley Joint Hospital	4	4
Calverley Joint Hospital	—	—
Eastby Sanatorium	1	—
Eldwick Sanatorium	—	1
Other Sanatoriums	2	—
Other Institutions	8	9
Total	1038	1112

It will be noted that in 1913, 597 deaths, or 13·3 per cent. of the total deaths occurred in Poor Law Hospitals ; 67 deaths or 1·5 per cent. in Lunatic Asylums ; 336 deaths, or 7·5 per cent., in Voluntary Hospitals ; and 102 deaths, or 2·3 per cent., in Municipal Hospitals.

The age incidence of deaths in Public Institutions is shown in the following Table :—

	Poor Law Hospitals	Lunatic Asylums	Voluntary Hospitals	Municipal Hospitals	Other Institutions	Total	Per cent. of Deaths at each age
Under 1	24	—	77	35	—	136	18·4
1—2	9	—	27	3	—	39	25·7
2—5	4	—	17	18	1	40	38·1
5—15	3	—	25	28	1	57	42·9
15—25	19	3	21	4	1	48	29·4
25—45	105	23	60	7	3	198	33·9
45—65	216	24	77	7	3	327	26·1
65	217	17	32	—	1	267	19·9
Total	597	67	336	102	10	1112	22·6

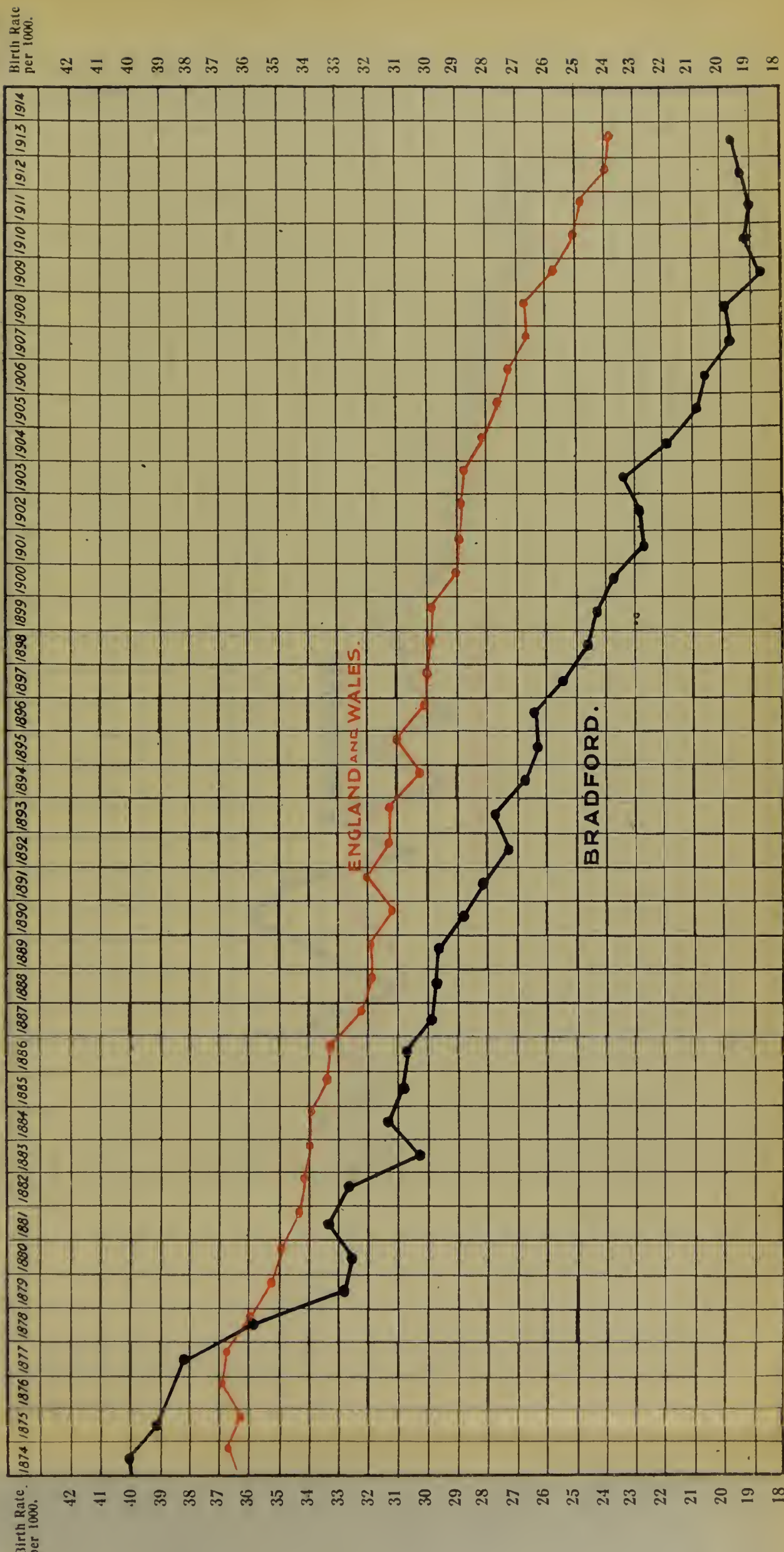
Certification of Deaths. 4.108 deaths, or 91·8 per cent., were certified by medical practitioners, and 363; or 8·1 per cent., by the coroner, and 3, or 0·1 per cent., were uncertified.

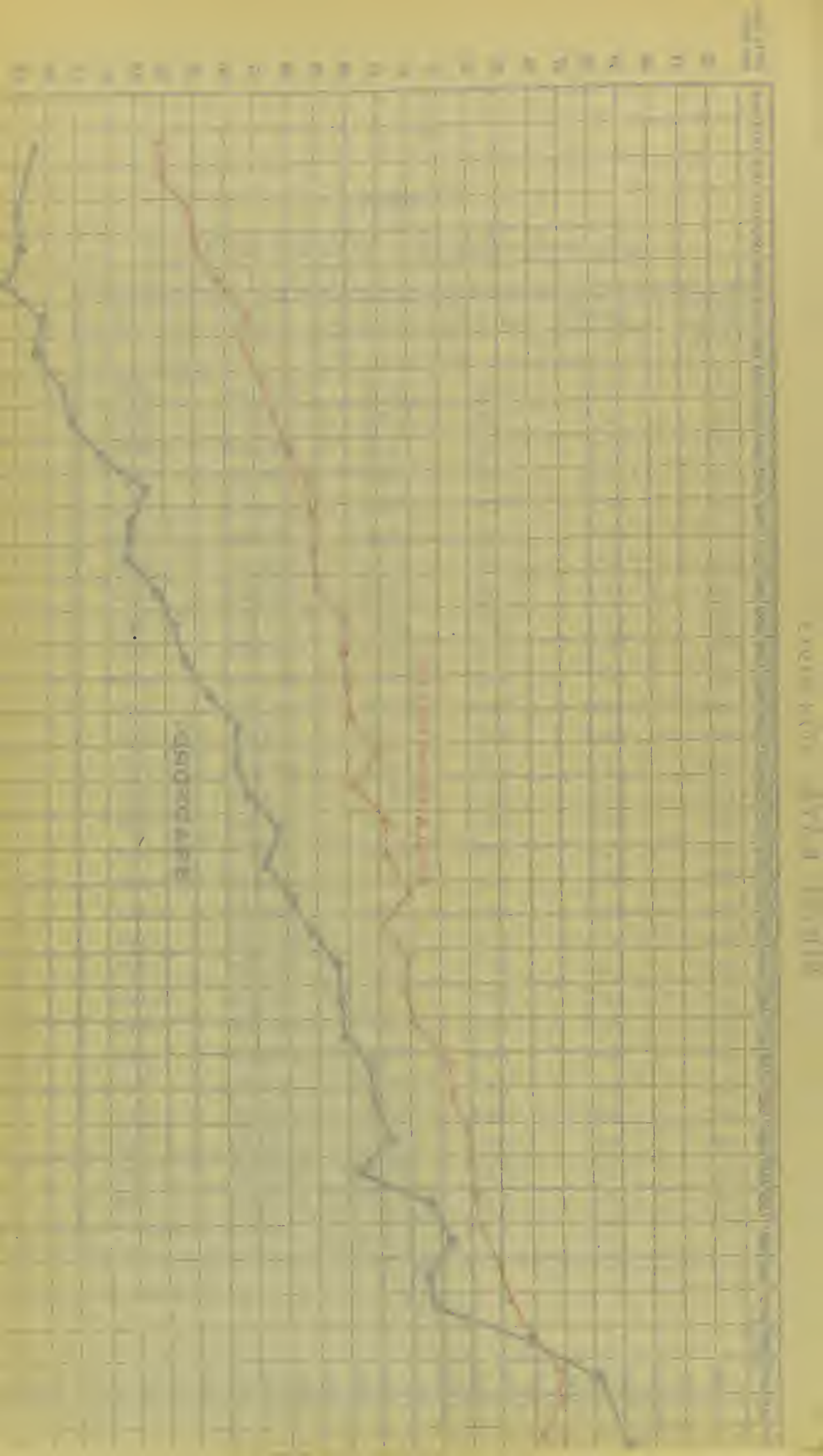
TABLE A.

VITAL STATISTICS OF BRADFORD FROM 1884.

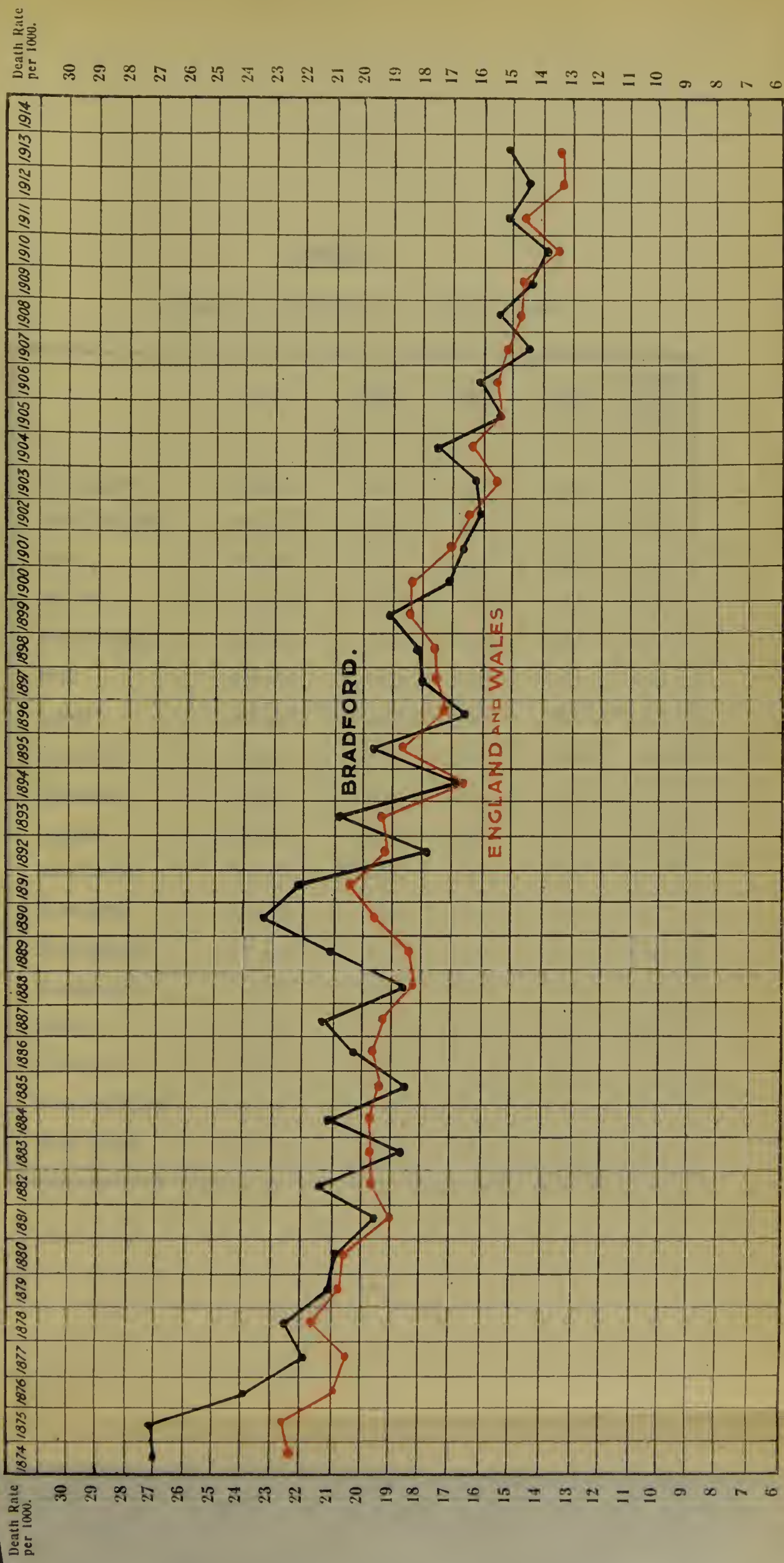
Year	Population	Birth Rate	Death Rate	Zymotic Death Rate	Infantile Mortality Rate
1884	201,347	30.9	20.0	2.40	181
1885	203,504	30.6	17.6	1.57	144
1886	205,684	30.6	19.1	2.24	167
1887	207,887	29.8	19.9	2.61	179
1888	210,113	29.8	17.2	1.59	153
1889	212,364	29.5	19.1	2.76	181
1890	214,634	29.1	20.1	2.38	169
1891	216,808	28.7	22.0	2.34	181
1892	217,805	27.4	18.0	1.59	155
1893	219,008	27.9	20.9	3.20	198
1894	220,218	27.1	17.0	1.69	144
1895	221,435	26.6	19.8	2.57	203
1896	222,658	26.7	16.8	1.59	143
1897	223,895	25.4	17.4	2.24	179
1898	225,133	24.8	17.5	2.20	184
1899	226,373	24.3	18.4	2.43	181
1900	278,634	24.1	17.1	1.43	141
1901	279,969	23.0	16.7	1.86	168
1902	280,833	23.3	15.7	1.38	138
1903	281,799	23.4	16.2	1.32	148
1904	282,568	22.2	17.4	2.43	167
1905	283,441	21.3	15.3	1.45	144
1906	284,314	20.9	16.2	1.97	152
1907	285,189	20.1	14.7	0.91	124
1908	286,071	21.0	15.7	1.46	143
1909	286,954	19.2	14.6	0.68	116
1910	287,839	19.1	14.3	1.26	127
1911	288,723	19.0	15.0	1.60	140
1912	289,618	19.3	14.5	0.82	98
1913	290,540	19.6	15.1	1.10	128

BIRTH RATE, 1874-1913.





DEATH RATE, 1874—1913.



THE EFFECT OF THE ...

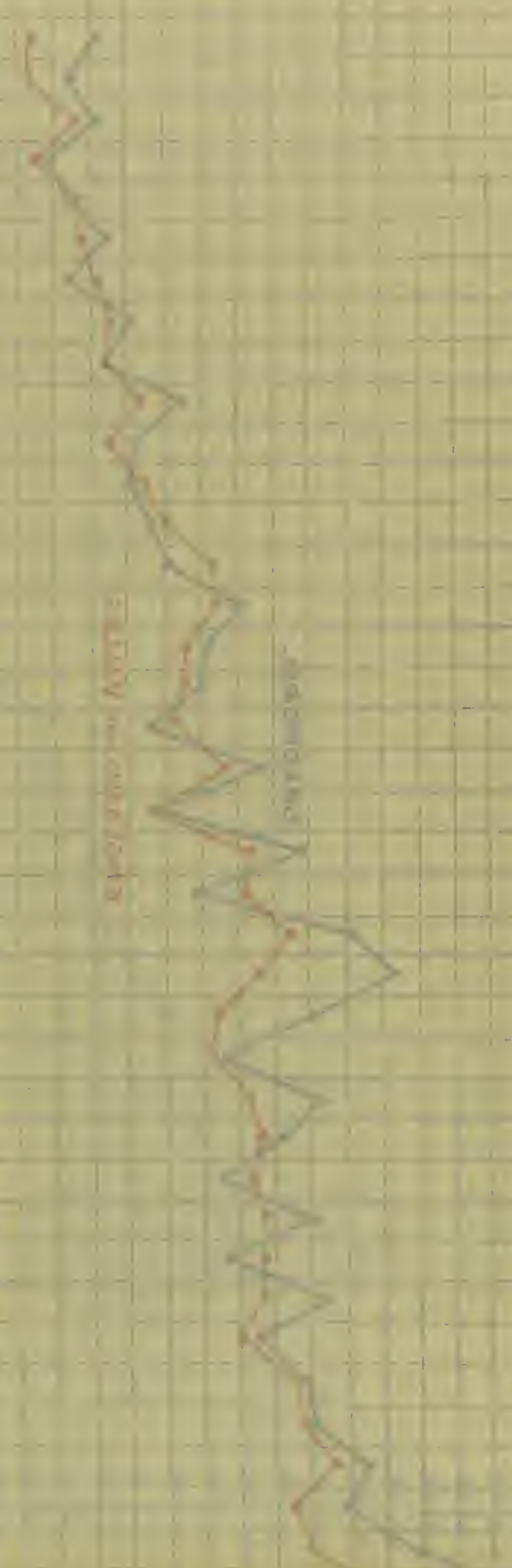


TABLE B.

COMPARATIVE STATISTICS OF GREAT TOWNS.

	Population	Birth Rate	Death Rate	Zymotic Rate	Infantile Mortality Rate
Birmingham ..	859,644	27·3	14·7	2·02	129
BRADFORD	290,540	19·6	15·1	1·10	128
Bristol ..	361,362	22·7	12·7	0·81	96
Halifax ..	100,740	18·7	15·4	0·74	101
Huddersfield ..	110,882	19·4	14·4	0·74	103
Hull	287,032	27·9	14·7	1·71	128
Leeds	457,295	23·5	15·4	1·40	134
Leicester ..	230,970	22·6	13·3	0·96	120
Liverpool ..	756,553	30·0	17·9	2·08	131
London ..	4,518,191	24·5	14·2	1·35	105
Manchester ..	730,976	25·9	15·5	1·70	127
Newcastle ..	271,295	27·0	15·0	1·26	121
Nottingham ..	264,735	22·6	14·1	1·21	130
Portsmouth ..	241,256	24·4	12·2	1·15	90
Salford ..	233,849	26·6	15·7	1·90	136
Sheffield ..	471,662	28·1	15·7	2·10	128
Stoke-on-Trent	239,284	31·3	18·6	3·13	170
West Ham ..	294,223	31·0	14·5	1·77	107

II.—RECORDS OF DISEASE.

(A) THE ZYMOTIC DISEASES.

The principal zymotic diseases at present recognised in this country are Enteric Fever, Diphtheria, Scarlet Fever, Smallpox, Typhus Fever, Infective Enteritis, Measles, and Whooping Cough.

The total deaths from these diseases in Bradford in 1913 was 326, giving a mortality rate for this group of 1.10 per 1,000. In England and Wales this rate was 1.19, and in the 96 Great Towns 1.48 per 1,000.

The Zymotic death rates during the past thirty years in Bradford are seen on Table A, page 24. It will be seen that the zymotic death rate for 1913 was 0.28 per 1,000 higher than the same death rate for 1912. The mean death rates from zymotic diseases for periods of five years show that though temporary fluctuations have occurred this death rate has been continuously falling.

AVERAGE QUINQUENNIAL ZYMOTIC DEATH RATES FROM 1870.

1871-75 .. 5.5	1891-95 .. 2.3	1911 .. 1.60
1876-80 .. 3.1	1896-1900.. 2.0	1912 .. 0.82
1881-85 .. 2.1	1901-05 .. 1.7	1913 .. 1.10
1886-90 .. 2.3	1906-10 .. 1.3	

The Zymotic death rate for the first quarter was 0.57; for the second 0.45; for the third 2.13; and for the fourth 1.24.

The diseases to be notified under the Infectious Disease (Notification) Act, 1889, are smallpox, cholera, diphtheria, membranous croup, erysipelas, scarlet fever, and the fevers known by any of the following names, typhus, typhoid, enteric, relapsing, continued or puerperal. In Bradford notification also applies to Acute Poliomyelitis and Cerebro-Spinal Fever, these diseases having been made notifiable on the 1st day of April, 1912.

The number of notifications received from medical practitioners during the year was 1302. This was 266 less than the number in the previous year.

NOTIFICATIONS FOR THE PAST 10 YEARS.

	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913
Scarlet Fever	1240	950	1047	633	815	1238	870	595	634	529
Typhoid Fever	193	187	236	110	148	81	110	196	256	81
Smallpox Continu'd Fever	100	105	2	—	—	—	—	—	2	—
Relapsing Fever	1	—	1	—	—	—	2	1	—	—
Cerebro-Spinal Fever	—	—	—	—	—	—	—	—	1	—
Puerperal Fever	—	—	—	2	2	1	—	—	2	—
Diphth'ra and Croup	19	23	12	20	18	18	16	26	16	15
Erysip'las	832	469	480	277	393	353	337	481	422	449
Poli'mye-litis ..	203	198	224	192	195	215	170	293	233	225
	—	—	—	—	—	—	—	—	2	3
Total	2588	1932	2002	1234	1571	1906	1505	1592	1568	1302

These numbers do not include the notifications of chickenpox required from time to time, nor notifications of tuberculosis.

Diphtheria. Cases, 449 ; Deaths, 53 ; Fatality, per cent., 11·78.

RECORD OF PREVIOUS YEARS.

	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913
Cases ..	832	469	480	277	397	357	337	481	422	449
Deaths	151	73	45	41	41	56	36	50	55	53
Fatality per cent.	18·1	15·6	9·4	14·8	10·3	15·7	10·7	10·4	13·0	11·8

MORTALITY RATE PER 1,000 IN PREVIOUS YEARS.

	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913
Bradford	0·53	0·32	0·16	0·14	0·14	0·19	0·12	0·18	0·19	0·18
England and Wales	0·17	0·16	0·17	0·16	0·15	0·14	0·12	0·13	0·11	0·12

The number of cases of Diphtheria in 1913 was slightly above that for 1912, but the fatality rate was somewhat lower. The sickness rate per 1,000 in Bradford was 1·54 as compared with 1·39 in England and Wales, and 1·48 in the County Boroughs of England. The greatest number of cases occurred in the West Bowling Ward, where 71 cases were notified, and in Great Horton where 54 cases occurred.

CASES OF DIPHTHERIA MONTH BY MONTH.

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Number of Cases ..	37	36	31	33	50	30	51	28	43	35	28	47

The greatest incidence of the disease fell on children under ten years of age, and the disease was most fatal between three and four years of age.

CASES AND DEATHS ACCORDING TO AGE.

	Under 1 year	1—2	2—3	3—4	4—5	5—6	6—7	7—8	8—9	9—10	10—15	15—20	Over 20	Total
Cases ..	7	12	27	18	42	52	47	34	16	37	77	21	59	449
Deaths	4	4	2	8	6	12	6	5	2	—	3	—	1	53
Fatality per cent.	57·1	33·3	7·4	44·4	14·13	23·1	12·8	14·7	12·5	0·0	4·0	0·0	1·7	11·8

In 385 cases it was thought advisable to test the house drains where Diphtheria had occurred; the drains were found defective in 99 or 25·7 per cent. of the cases.

The number of cases removed to hospital was 306, or 68·2 per cent. of the cases.

Enteric Fever. Cases notified, 81; Deaths, 18; Fatality per cent, 22·2.

RECORD OF PREVIOUS YEARS.

	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913
Cases ..	193	187	236	110	148	81	110	196	256	81
Deaths	41	25	49	23	29	17	29	45	51	18
Fatality per cent.	21·2	13·4	20·8	20·9	19·6	21·0	26·4	22·9	19·9	22·2

MORTALITY RATES PER 1,000 IN PREVIOUS YEARS.

	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913
Bradford	0·14	0·09	0·17	0·08	0·10	0·06	0·10	0·14	0·18	0·06
England and Wales	0·09	0·09	0·09	0·07	0·07	0·06	0·05	0·07	0·04	0·04

There was a considerable decrease in the number of cases of Enteric Fever notified, and a slight increase in the fatality rate.

In the Wards the greatest number occurred in Little Horton (13 cases), Listerhills (10 cases), and West Bowling (9 cases), while no cases occurred in Allerton and Eccleshill Wards. The monthly incidence of the disease is shown as follows :—

CASES OF ENTERIC FEVER MONTH BY MONTH.

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Number of Cases ..	8	2	7	2	9	6	2	4	4	4	25	8

There was no excessive prevalence of the disease in 1913, although a late autumnal increase in the number of cases was observed.

Compared with other localities the sickness rate in Bradford was 0·27 per 1,000 of the population, as against 0·22 in England and Wales, and 0·25 in the County Boroughs of England.

The cases occurred in 68 houses as follows :—In 65 houses one case occurred, in 1 house two cases, in 1 house three cases, and in 1 house four cases, while seven cases occurred in public institutions.

The sanitary conveniences in the houses where cases occurred were privy middens in 28 houses, giving 31 cases ; and water closets in 40 houses, giving 43 cases ; the increased incidence in houses with privy middens will be noted. In 74 cases it was thought advisable to test the house drains ; defects were found in 13 or 17·6 per cent.

The number of cases removed to hospital was 52, 45 going to Leeds Road Hospital, 5 to North Bierley Hospital, and 2 to Thornton Hospital.

The bacteriological examinations carried out with respect to Enteric Fever are referred to in another part of the Report.

Scarlet Fever. Cases, 529 ; Deaths, 10 ; Fatality per cent., 1·89.

RECORD OF PREVIOUS YEARS.

	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913
Cases ..	1240	950	1047	633	815	1238	870	595	634	529
Deaths	33	44	41	13	14	24	14	9	12	10
Fatality per cent.	2·7	4·6	3·9	2·1	1·7	1·9	1·6	1·5	1·8	1·9

MORTALITY RATE PER 1,000 IN PREVIOUS YEARS.

	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913
Bradford	0·12	0·15	0·14	0·05	0·05	0·08	0·05	0·03	0·04	0·03
England and Wales	0·11	0·11	0·10	0·09	0·08	0·09	0·06	0·05	0·05	0·06

The number of cases of Scarlet Fever notified in 1913 is less than in any year since 1897. The sickness rate per 1,000 in Bradford in 1913 was 1·82, as compared with 3·57 in England and Wales, and 4·26 in the County Boroughs of England. The greatest number of cases occurred in Great Horton Ward, where 51 cases were notified, and in West Bowling Ward, where 49 cases were notified.

CASES OF SCARLET FEVER MONTH BY MONTH.

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Number of Cases ..	81	47	33	33	37	36	53	34	40	52	46	37

The cases and deaths classified according to age are seen in the following Table :—

CASES AND DEATHS ACCORDING TO AGE.

	Under 1 year	1-5 years	5-15 years	15-25 years	25-45 years	45-65 years	Over 65 years	Total
Cases	2	126	308	71	15	6	1	529
Deaths	—	1	3	5	—	1	—	10
Fatality per cent. ..	0·0	0·79	0·97	7·04	0·0	16·66	0·0	1·89

The number of cases removed to hospital was 409, or 77·3 per cent. of the cases.

Small Pox. Cases notified, 0 ; Deaths, 0 ;

RECORD OF PREVIOUS YEARS.

	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913
Cases ..	100	105	2	—	—	—	—	—	2	—
Deaths	3	7	—	—	—	—	—	—	—	—
Fatality per cent.	3·0	6·7	0	—	—	—	—	—	0	—

No case of Small pox occurred in the City during 1913. The Health Committee have at present under consideration the urgent need for permanent provision for the isolation of this disease.

The following Table gives the vaccination returns in the Bradford Union since 1908. The figures have been supplied by Mr. Crowther, the Superintendent Vaccination Officer of the Bradford Union. The increase in the number of persons unprotected by vaccination is to be noted with regret.

VACCINATION STATISTICS.

Year	1 Births	2 Vaccinated	3 Insus- ceptible	4 Dead	5 Con. Objector	6 Post- poned	7 Removed	8 Un- accounted	Percent- age not Vaccinat'd including Columns 5, 6, 7, 8
1908	4773	2777	5	512	1029	68	333	49	34·8
1909	4544	2501	20	383	1245	53	305	37	39·6
1910	4508	2391	5	409	1317	73	270	43	41·6
1911	4573	2216	11	447	1526	82	239	52	46·1
1912	4702	2081	3	355	1826	120	230	87	52·1

The figures for that part of Bradford included in the North Bierley Union, are not available.

Diarrhœa. Deaths, 220 ; Mortality per 1,000, 0.74.

The diseases included in this category fall generally into two groups those which are zymotic in type and those not so regarded. The distinction between the two is by no means so well recognised, while the confusing character of the nomenclature used in certification adds to the difficulties which present themselves in a consideration of this subject.

There was a large increase in the number of deaths from these diseases last year as compared with the year 1912.

RECORD OF PREVIOUS YEARS.

	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913
Deaths	284	177	328	112	246	61	142	249	57	220
Mort'lity per 1000	1.01	0.62	1.15	0.39	0.86	0.21	0.49	0.86	0.20	0.74

These diseases were most prevalent in the South, Listerhills, Manningham, Bradford Moor, North, East Bowling, Little Horton, East, and West Wards. Generally speaking therefore the highest mortality from *Diarrhœa* has occurred in the Wards with the greatest density of population.

The deaths from *Diarrhœa* were more prevalent in those districts where the sanitary conveniences were of the privy midden type.

The great majority of the deaths occurred in children under two years of age ; 187, or 85 per cent. of the deaths occurring at this age period.

DEATHS AT VARIOUS AGE PERIODS.

Age Periods	Months			Years.							
	0-3	3-6	6-12	0-1	1-2	2-5	5-15	15-25	25-45	45-65	65
Deaths ..	46	56	52	154	33	2	—	2	6	9	14

The disease assumed epidemic forms in the months of August, September, and October ; the number of deaths rising from two in the 27th week of the year (week ending July 5th), to 28 in the 39th week (week ending September 27th).

DEATHS OCCUPRING MONTH BY MONTH.

	Jan.	Feb.	Mar.	Apl.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Number of Deaths ..	4	1	1	2	5	5	10	34	103	37	13	5	220

Seventy-nine per cent. of the deaths took place in the months of August, September, and October.

Week Ending.		Deaths from D'rrhoea	Mean Tempera- ture.	Week Ending.		Deaths from D'rrhoea	Mean Tempera- ture.
January	4 ..	—	42·7	July	5 ..	2	58·9
„	11 ..	2	41·3	„	12 ..	2	54·1
„	18 ..	—	33·7	„	19 ..	1	59·4
„	25 ..	2	37·6	„	26 ..	5	55·2
February	1 ..	1	35·5	August	2 ..	8	59·8
„	8 ..	—	44·0	„	9 ..	5	55·8
„	15 ..	—	40·7	„	16 ..	10	57·7
„	22 ..	—	35·8	„	23 ..	11	57·0
March	1 ..	1	39·0	„	30 ..	18	59·9
„	8 ..	—	44·1	September	6 ..	21	55·7
„	15 ..	—	41·8	„	13 ..	18	56·4
„	22 ..	—	38·9	„	20 ..	18	54·5
„	29 ..	—	40·4	„	27 ..	28	58·7
April	5 ..	1	43·9	October	4 ..	10	56·2
„	12 ..	—	41·3	„	11 ..	12	49·2
„	19 ..	1	43·5	„	18 ..	12	50·7
„	26 ..	—	?	„	25 ..	3	47·0
May	3 ..	2	48·6	November	1 ..	4	50·1
„	10 ..	1	48·2	„	8 ..	2	44·4
„	17 ..	1	50·4	„	15 ..	2	45·4
„	24 ..	1	?	„	22 ..	3	45·1
„	31 ..	4	58·2	„	29 ..	2	45·7
June	7 ..	—	55·9	December	6 ..	—	40·9
„	14 ..	—	52·3	„	13 ..	1	44·3
„	21 ..	—	58·8	„	20 ..	2	42·9
„	28 ..	1	56·4	„	27 ..	2	39·6
				January	3 ..	—	32·9

The Autumnal epidemic of Diarrhœa was therefore a very large one, and was characterised by the late date at which it reached its acme. This is to be associated with the prolonged dry and hot period which occurred in the late Summer and Autumn of 1913. So numerous and severe were the cases of diarrhœa, especially among young children, that it was deemed advisable to render available hospital treatment for the disease. A small pavilion was rapidly equipped at Leeds Road Hospital, at which there were treated 139 cases ; of these 39 died.

The Local Authority determined during the year to make zymotic enteritis notifiable under the Infectious Disease (Notification) Act, 1889.

DEATHS IN EACH WARD FROM DIARRHOEAL DISEASES IN 1913.

Ward	Certified as Infective			Not Certified as Infective			Total Deaths from Diarrhoeal Diseases		
	Under 2 yrs.	Others	Total	Under 2 yrs.	Others	Total	Under 2 yrs.	Others	Total
Allerton	2	—	2	2	—	2	4	—	4
Bolton	—	—	—	2	1	3	2	1	3
Bradford Moor	6	—	6	11	1	12	17	1	18
East	3	—	3	9	1	10	12	1	13
East Bowling	6	1	7	7	2	9	13	3	16
Eccleshill	—	—	—	2	2	4	2	2	4
Exchange	—	—	—	2	1	3	2	1	3
Great Horton	3	—	3	3	2	5	6	2	8
Heaton	1	—	1	4	3	7	5	3	8
Idle	1	—	1	1	—	1	2	—	2
Listerhills	10	1	11	7	3	10	17	4	21
Little Horton	10	—	10	4	2	6	14	2	16
Manningham	13	—	13	8	—	8	21	—	21
North	4	—	4	12	2	14	16	2	18
North Bierley East	2	—	2	—	5	5	2	5	7
North Bierley West	—	—	—	—	—	—	—	—	—
South	15	—	15	13	2	15	28	2	30
Thornton	—	—	—	2	2	4	2	2	4
Tong	—	—	—	3	—	3	3	—	3
West	6	—	6	6	1	7	12	1	13
West Bowling	3	—	3	4	1	5	7	1	8
City	85	2	87	102	31	133	187	33	220

Measles. Deaths, 36 ; Mortality per 1,000, 0·12.

MORTALITY RATE PER 1,000 IN PREVIOUS YEARS.

	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913
Bradford England and Wales	0·53	0·04	0·44	0·17	0·25	0·08	0·49	0·04	0·17	0·12
	0·35	0·32	0·27	0·36	0·22	0·35	0·23	0·36	0·35	0·28

The City was very free from Measles for the greater part of the year, but in the third quarter an outbreak began which attained considerable dimensions during the current year.

Whooping Cough. Deaths, 22 ; Mortality per 1,000, 0·08.

MORTALITY RATE PER 1,000 IN PREVIOUS YEARS.

	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913
Bradford England and Wales	0·19	0·36	0·13	0·28	0·19	0·15	0·16	0·35	0·04	0·08
	0·34	0·25	0·23	0·29	0·27	0·20	0·24	0·21	0·23	0·14

There was a slight increase in the mortality rate from Whooping Cough last year, 22 deaths occurring as compared with 13 in the year previous.

Influenza. Deaths, 43.

RECORD OF PREVIOUS YEARS.

	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913
Deaths	36	51	32	64	72	87	33	35	22	43

The number of deaths from Influenza was rather over the average recorded in recent years.

Puerperal Fever. Cases, 15 ; Deaths, 6 ; Fatality per cent., 40·0.

RECORD OF PREVIOUS YEARS.

	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913
Cases ..	19	23	12	20	18	18	16	26	16	15
Deaths	8	10	9	10	9	2	7	8	9	6
Fatality per cent.	42·1	43·5	75·0	50·0	50·0	11·1	43·7	30·8	56·2	40·0
Number of live births to each death	785	605	660	574	666	2753	784	686	621	968

The term Puerperal Fever has been removed from the nomenclature of the Royal College of Physicians. Pyæmia, Septicæmia, or Septic Intoxication occurring in puerperal women should be described as Puerperal Pyæmia, Puerperal Septicæmia, or Puerperal Septic Intoxication.

Erysipelas. Cases, 225 ; Deaths, 9 ; Fatality per cent, 4·0.

RECORD OF PREVIOUS YEARS.

	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913
Cases ..	303	198	224	192	195	215	170	293	233	225
Deaths	9	7	9	5	5	10	7	14	6	9
Fatality per cent.	4·43	3·54	4·02	2·60	2·56	4·65	4·12	4·78	2·58	4·00

Anthrax. Cases, *13; Deaths, *2; Fatality per cent. 15'4.

	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913
Cases ..	5	20	11	9	8	7	5	7	8	13
Deaths	1	10	4	3	3	1	1	4	3	2
Fatality per cent.	20'0	50'0	36'4	33'3	37'5	14'3	20'0	57'1	37'5	15'4

* Included in these figures is a fatal case admitted to the Bradford Royal Infirmary of a person belonging to a district outside the city.

(B) OTHER DISEASES.

The deaths occurring in the City during 1913 from all diseases are set out on Table III., page 163, which also shows their age periods. This section will only deal with those diseases other than zymotic diseases which call for special comment.

Tuberculosis. Deaths, 425; Mortality rate per 1,000, 1'44.

There was a decrease of 38 in the number of deaths and a decrease of 0'16 per 1,000 in the mortality rate from tuberculosis as compared with 1912.

(A). PULMONARY TUBERCULOSIS. Deaths, 309; Mortality rate per 1,000, 1'04.

The figures show a decrease in the number of deaths of 55 and a decrease in the mortality rate of 0'22 per 1,000 in 1913.

(B). TUBERCULOSIS OTHER THAN PULMONARY. Deaths, 116; Mortality rate per 1,000, 0.40.

From these diseases the number of deaths show an increase of 17 and the mortality rate an increase of 0.06 per 1,000 in 1913.

A full consideration of the subject of Tuberculosis will be found on pages 43—59 of the Report.

Cancer and Malignant Disease. Deaths, 349; Mortality rate per 1,000, 1.18.

RECORD OF PREVIOUS YEARS.

	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913
Deaths	267	254	284	285	286	326	292	338	356	349
Mortality rate per 1000 ..	0.93	0.90	1.00	1.00	1.00	1.14	1.01	1.17	1.23	1.18

The mortality rate is below that of last year, which was the highest on record.

AGE INCIDENCE AT DEATH.

Age Periods ..	1-15	15-25	25-45	45-65	65 and upwards
Deaths ..	2	2	49	188	108

The great majority (84.6 per cent.) of the deaths therefore occurred after 45 years of age.

DEATHS FROM CANCER CLASSIFIED ACCORDING TO THE ORGAN AFFECTED.

	1912.			1913.		
	Males.	Females.	Total.	Males.	Females.	Total.
Cancer of Stomach and Bowels ..	71	67	138	66	68	134
„ Liver	16	31	47	16	27	43
„ Urinary and Generative Organs	11	56	67	14	43	57
„ Breast	—	27	27	—	40	40
„ Head and Face	8	4	12	7	4	11
„ Throat and Tongue ..	20	5	25	20	6	26
„ Other parts of the body	24	16	40	20	18	38
Total	150	206	356	143	206	349

Respiratory Diseases. Deaths, 699 ; Mortality rate per 1,000, 2·36.

There was a slight decrease in the number of these deaths last year. The number of deaths from bronchitis has increased, and that from pneumonia has decreased.

DEATHS FROM BRONCHITIS AND PNEUMONIA IN PREVIOUS YEARS.

	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913
Bronchitis	434	431	350	425	403	428	333	322	359	410
Pneumonia	388	366	340	336	299	341	270	309	307	264

AGE INCIDENCE OF DEATHS.

Age Periods	1 year	1-2	2-5	5-15	15-25	25-45	45-65	65 upwards
Bronchitis ..	27	6	2	—	4	18	125	228
Pneumonia ..	69	30	13	5	10	27	54	56

The heavy mortality rate from these diseases in the young and old will be appreciated from the above table.

Deaths from Violence. Deaths, 143 ; Mortality rate per 1,000, 0·48.

RECORD OF PREVIOUS YEARS.

	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913
Deaths	137	148	147	140	150	143	122	136	143	143
Mort'lity rate per 1,000 ..	·49	·52	·52	·49	·52	·50	·42	·47	·49	·48

During the year the coroner made inquiries into 363 cases of death.

III. PREVALENCE OF AND CONTROL OF TUBERCULOSIS.

(a) STATISTICS OF MORBIDITY AND MORTALITY.

The number of deaths from all forms of tuberculosis in 1913 was 425, giving a mortality rate of 1·44 per 1,000.

RECORD OF PREVIOUS YEARS.

	1904	1905	1906	07	1908	1909	1910	1911	1912	1913
Deaths	537	442	492	465	536	429	435	426	463	425

MORTALITY RATE PER 1,000 IN PREVIOUS YEARS.

	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913
Bradford	1.90	1.56	1.73	1.63	1.87	1.50	1.51	1.48	1.60	1.44
England and Wales..	1.78	1.64	1.65	1.62	1.59	1.54	1.43	1.47	1.38	

There was therefore a slight decrease in the mortality from this cause in 1913. During the past thirty years there has been a marked progressive reduction in the death rate from all forms of tuberculosis in Bradford; this is well seen in the following table, which shows the average mortality rate per 1,000 for five yearly periods from 1881:—

AVERAGE MORTALITY RATE PER 1,000 FROM TUBERCULOSIS IN
BRADFORD FOR PERIODS OF FIVE YEARS FROM 1881.

Periods ..	1881-85	1886-90	1891-95	1896-1900	1901-05	1906-10
Average Mortality rate per 1,000 ..	2.71	2.47	2.26	2.12	1.84	1.65

1911 .. 1.48	} Average for 3 years .. 1.50
1912 .. 1.60	
1913 .. 1.44	

For purposes of comparison of the results in Bradford with those of England and Wales it is necessary to apply to the Bradford figures standardising factors so as to eliminate differences in age and sex distribution. These factors for Bradford are as follows:—

STANDARDISING FACTORS FOR TUBERCULOSIS AT CENSUS, 1911.

Pulmonary Tuberculosis.—

Males	0.8920
Females	0.9178
Persons	0.9098

Other Forms of Tuberculosis.

Males	..	..	..	..	1·1650
Females	..	..	..	..	1·2354
Persons	..	..	..	..	1·2030

All Forms of Tuberculosis.

Males	..	..	..	..	0·9568
Females	..	..	..	..	1·0016
Persons	..	..	..	..	·9829

The general standardised mortality rate for tuberculosis therefore in 1913 was 1·4154 per 1,000.

Notification of all forms of Tuberculosis became compulsory from the 1st February, 1913, under a general order of the Local Government Board. Table V., page 166, shows the total number of notifications received during the last eleven months of the year. The total cases notified amounted to 1,369, of which 1,231 were notified for the first time; in addition also 407 notifications of admission to, or, discharge from public institutions were received.

(A) *Pulmonary Tuberculosis.* Deaths, 309; Mortality rate per 1,000, 1·04.

RECORD OF PREVIOUS YEARS.

	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913
Deaths	392	321	374	330	395	319	329	332	364	309

MORTALITY RATE PER 1,000 IN PREVIOUS YEARS.

	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913
Bradford	1.38	1.13	1.32	1.16	1.38	1.11	1.14	1.15	1.25	1.04
England and Wales..	1.24	1.14	1.15	1.14	1.11	1.08	1.01	1.06	1.05	—

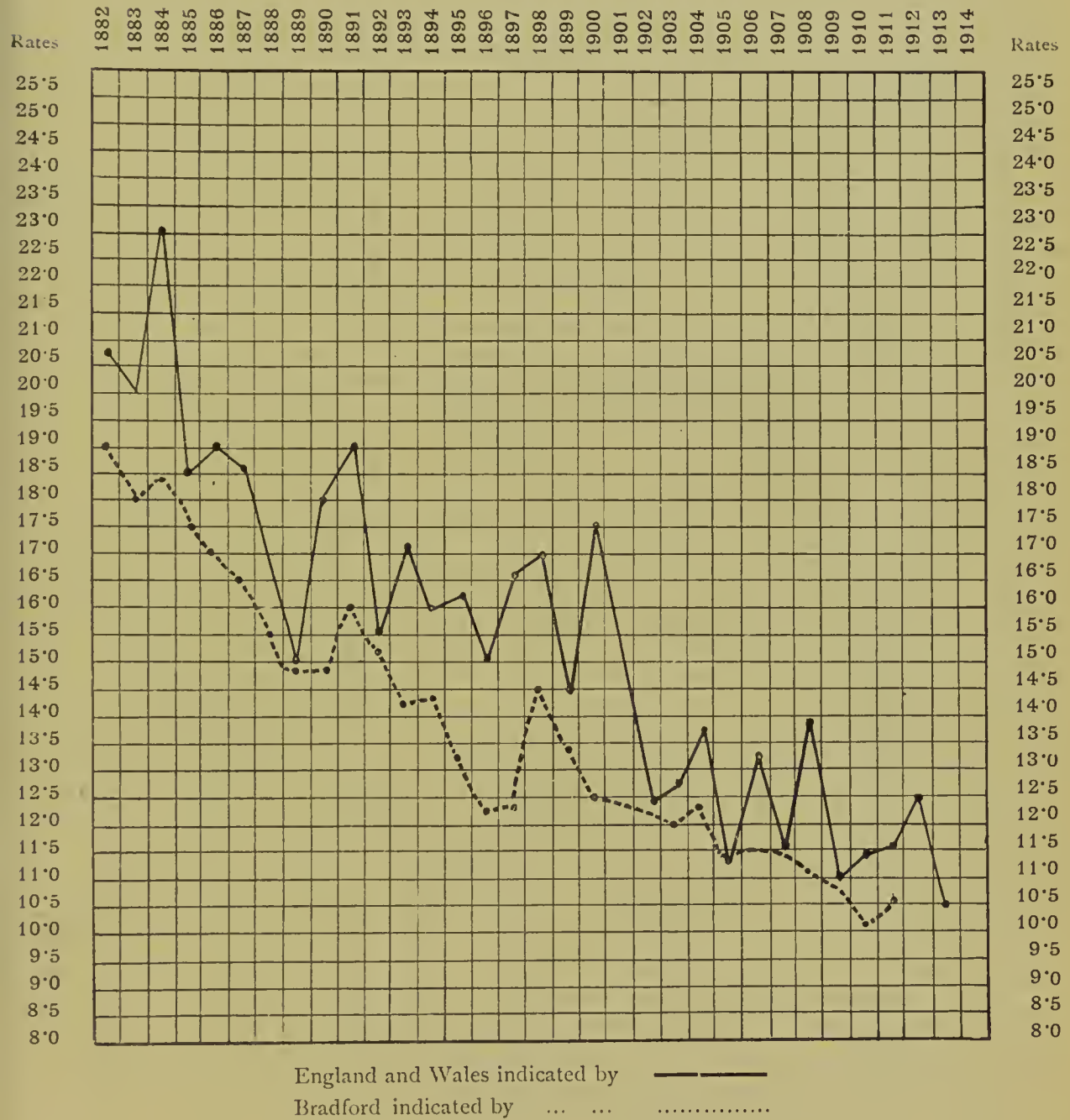
There was a considerable decrease in the number of deaths and in the mortality rate from pulmonary tuberculosis last year and the death rate is the lowest on record.

From the chart it will be noticed that there has been a continuous fall in the mortality from pulmonary tuberculosis for the past thirty years, and that during the latter half of this period this fall has been most marked.

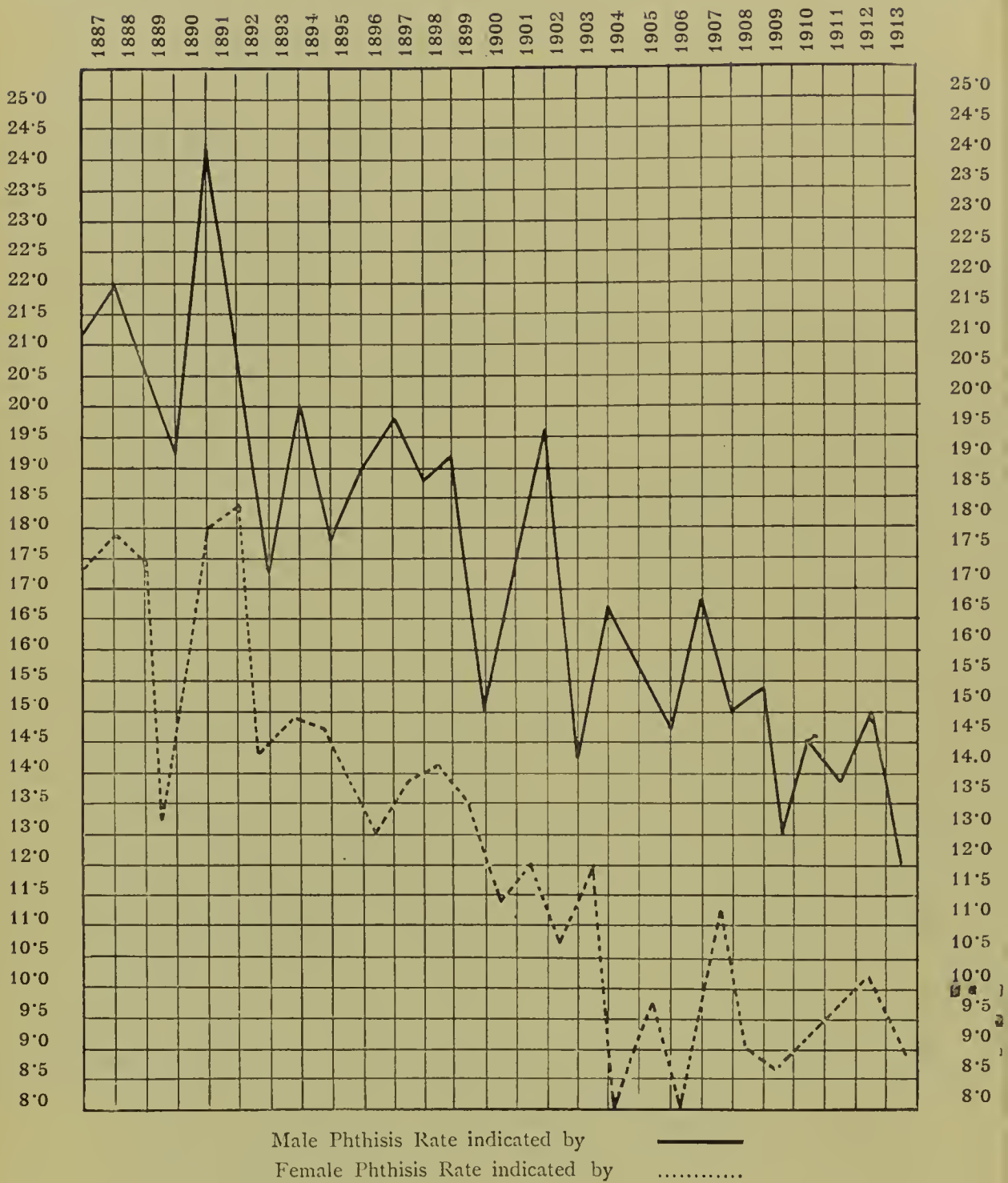
Considering the deaths in relation to sex the death-rate from pulmonary tuberculosis was in 1913 among males, 1.23 per 1,000, and among females, 0.89 per 1,000. Applying the standardising factors for purposes of comparison the standardised male death-rate was 1.10 per 1,000, and the standardised female death rate was 0.82 per 1,000; the standardised rate for the whole population in pulmonary tuberculosis is 0.95 per 1,000. The chart on page 48, shows that the general death-rate in the male sex for the past thirty years has always been greater than that of the female sex, while the fall in the male death-rate has at the same time during that period been correspondingly less.

The notification of pulmonary tuberculosis was under the general orders of the Local Government Board compulsory throughout the whole year, and the notifications received numbered 964. These

DEATH RATES FROM PULMONARY TUBERCULOSIS PER 10,000 OF THE POPULATION
IN ENGLAND AND WALES AND BRADFORD, 1882-1913.



DEATH RATE FROM PHTHISIS PER 10,000 OF THE POPULATION.



notifications classified according to age and sex are seen in the following table.

NOTIFICATION OF PULMONARY TUBERCULOSIS, 1913.

	PRIMARY NOTIFICATIONS												Total Notifications (i.e., including cases previously notified by other Doctors)
	AGE PERIODS												
	0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 and up- wards	Total	
Males	—	8	32	48	27	49	108	108	73	46	16	515	633
Females	2	6	43	44	37	61	104	90	32	18	12	449	514
Total	2	14	75	92	64	110	212	198	105	64	28	964	1147

At the present moment the total number of notifications of pulmonary tuberculosis can hardly be taken as an index of the prevalence of this form of the disease. Generally speaking notification chiefly refers to those well established cases respecting which the diagnosis is no longer in doubt, but with the further development of antituberculous work which is now taking place, many cases in an early stage and possibly of a doubtful nature will be brought to light, and for some years the number of notifications may be expected to be high.

(B) *Other Forms of Tuberculosis.* Deaths, 116 ; Mortality rate per 1,000, 0.40.

RECORD OF PREVIOUS YEARS.

	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913
Deaths	145	121	118	135	141	110	106	94	99	116

MORTALITY RATE PER 1,000 IN PREVIOUS YEARS.

	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913
Bradford	0·52	0·43	0·43	0·47	0·49	0·39	0·37	0·33	0·35	0·39
England and Wales..	0·54	0·49	0·50	0·47	0·47	0·45	0·43	0·41	0·33	—

There was some increase in the number of deaths and in the death rate from the forms of tuberculosis other than pulmonary. The death rate is the highest that has occurred during the past four years. The standardised death-rates for other forms of tuberculosis for Bradford in 1913 are for males 0·57, for females 0·38, and generally, 0·47, per 1,000.

Notification of other forms of tuberculosis was only in operation during the last eleven months of the year, when 377 cases were notified. (See Table V., page 166.)

(b). MEASURES FOR PREVENTION AND CURE.

The Tuberculosis Scheme. The Health Committee have been much occupied in developing a scheme for the prevention and treatment of Tuberculosis. Temporary arrangements had been made in the middle of 1912 for carrying out antituberculosis work and during 1913 permanent arrangements were determined upon. The temporary arrangements consisted of the opening of a tuberculosis dispensary with a staff of tuberculosis officers and nurses, and the setting aside of Bierley Hall Hospital for the treatment of pulmonary cases. One tuberculosis medical officer began duty in May, 1912, and a second officer in April,

1913. At Bierley Hall Hospital fifty beds were at first available for patients, and accommodation was found there in 1913 for other sixteen patients by the erection of shelters and the rearrangement of the wards. As this hospital is excellently situated the cases admitted have chiefly been those in which there was some prospect of cure. For the later cases requiring isolation and educative treatment provision was made last year at Leeds Road Hospital by setting aside a pavilion with twenty-eight beds. The total residential accommodation therefore under the temporary arrangements of the City Council amounts to ninety-six beds. At Bierley Hall Hospital a resident physician was appointed in 1913 and at Leeds Road Hospital a resident assistant physician was appointed early in 1914 for this and other work.

The permanent arrangements provide for a central well-equipped dispensary in place of the temporary and ill-adapted dispensary at present in use. In addition it was decided to erect a new sanatorium at Grassington and to extend the accommodation at Bierley Hall.

The plans of the new sanatorium at Grassington have been prepared and during the current year a Local Government Board inquiry has been held. This institution will contain 152 beds, fifty-two of which are for men, fifty-two for women, and forty-eight for children. The accommodation for children is in a separate part of the institution, and special provision has been made for their education while in the sanatorium.

At Bierley Hall the extension will provide for fifty cases of surgical tuberculosis, and any further accommodation for tubercle which experience may prove necessary can be arranged for here.

It is the intention of the Council when the permanent scheme is in operation to deal with all cases of tuberculosis whether insured or

non-insured, whether or not in receipt of poor law relief, and whether suffering from the pulmonary form of the disease or other forms.

At the present moment the beds occupied in poor law and other institutions not belonging to the City Council by cases of pulmonary tuberculosis from Bradford numbers about 114. The great majority of the patients occupying these beds are late cases of the disease, but if the success hoped for attends the antituberculosis campaign an early real decrease ought to take place in the number of late cases.

Since the commencement of the work in Bradford both insured and non-insured have been treated at the dispensary and residential institutions.

Arrangements with the Insurance Committee. The first agreement made with the Insurance Committee provided for the use of the dispensary and sanatorium on payment of sums calculated on the number of patients recommended there, and for the services of the officers of the Corporation on payment of a lump sum. While this agreement worked well it was felt to be unnecessarily complicated and likely to retard the free development of the work which was the common object of both the Insurance Committee and the City Council. A new agreement was therefore made along the lines suggested in the memorandum of the Local Government Board of 7th November, 1913, by which all the institutions of the Corporation, residential and non-residential, and the services of all the officers engaged in antituberculosis work were made available for the purposes of the Insurance Committee. This agreement was completed during the current year, and provided :—

- (1) That the Insurance Committee pay to the Council a sum calculated at the rate of 9d. per head of insured persons eligible for sanatorium benefit less a sum equal to that which will be required annually by the Committee to defray administration and other expenses in respect of such benefit, such last-

mentioned sum not to exceed, for the purposes of this agreement, the amount represented by 1d. per head of insured persons in any one year.

- (2) That the Council provide for the Insurance Committee fifty beds for sanatorium and hospital treatment, and the use of dispensary and medical advice, and
- (3) That the Agreement continue in force for a period of twenty years from 12th January, 1914, and be subject to modification or extension by mutual agreement (except as to the period of its continuance) or, in default of agreement, as may be determined by the Local Government Board.

The negotiations throughout were of a most harmonious character.

Work done during 1913. On the notification of a case of Tuberculosis it is visited at home by one of the nurses and inquiries are made as to the possible sources of infection, the danger of the spread of the disease, the housing accommodation and the general sanitary circumstances. Advice is given as to the hygienic treatment of the case and the patient is urged to attend the dispensary for general inspection and treatment if need be. Arrangements are made at the same time for the examination of contacts which is done at the dispensary. The number of such primary visits made in 1913 was 1,119. On a consideration of all the facts thus elicited respecting each case, the results of the clinical examination at the Dispensary and the report of the private medical attendant, the most suitable method of treatment is determined upon, the case receiving one or more of the following forms of treatment: (a) Domiciliary; (b) Dispensary; (c) Sanatorium, and (d) Hospital.

Domiciliary treatment has been suggested (i.) in advanced bed-ridden cases usually living in good homes; (ii.) at the patient's special

request when this is feasible (there have been very few such cases) ; and (iii.) in cases leaving an institution in which special treatment at the dispensary is unnecessary.

Dispensary treatment has been given (i.) alone with or without previous observation in hospital in a large number of cases ; and (ii.) after a period of prolonged treatment in an institution ; and (iii.) along with domiciliary treatment, the patient attending the dispensary for consultation and inspection purposes.

Sanatorium treatment has been advised in early cases without temperature with or without the administration of tuberculin. In sanatorium cases graduated labour and exercise has been carefully given.

Hospital treatment has been recommended in (i.) advanced cases with some hope of improvement ; and (ii.) advanced cases in a hopeless condition with the object of removing a source of infection from the home.

All cases are kept in touch with either by their continuous attendance at the dispensary or by repeated home visitation by the nurses. The number of visits made by the nurses in 1913 in addition to those made on the receipt of notification was 6,144. The general results of treatment have been very encouraging and as the work becomes better known and appreciated the patients themselves and their medical attendants are utilising in an increasing degree the facilities offered. At present the work is handicapped by the increasing pressure which is being put upon the temporary arrangements, but the Committee are anxiously pushing forward their complete scheme.

The results of treatment in 422 cases treated since the 15th July, 1912, are shown in the following table :—

GENERAL RESULTS OF TREATMENT IN CASES OF PULMONARY
TUBERCULOSIS.

	Sanatorium.			Hospital			Dispensary.			Total.		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
Greatly improved ..	33	35	68	17	11	28	29	30	59	79	76	155
Improved	7	4	11	17	5	22	13	16	29	37	25	62
Unrelieved	4	4	8	6	5	11	5	7	12	15	16	31
Worse.. .. .	—	1	1	2	1	3	1	2	3	3	4	7
Died	—	—	—	3	—	3	4	5	9	7	5	12
Remaining under Treatment 11/1/14	15	14	29	10	6	16	65	45	110	90	65	155
Total Cases Treated	59	58	117	55	28	83	117	105	222	231	191	422

NOTES :—Dispensary cases include only those who have received dispensary treatment alone.
 "Greatly Improved" means that the patient's working capacity is almost restored.
 "Discharged unrelieved" includes 2 males and 1 female under Sanatorium Treatment,
 1 male under Hospital Treatment, and 4 males and 5 females under Dispensary
 Treatment, who were discharged for other than Medical reasons.

The total persons admitted from Bradford to residential institutions in 1913 so far as is known was 568 ; and the cases discharged 436 ; the admission to municipal institutions being 177 ; and the discharges 165.

The total number of cases which had passed through the tuberculosis dispensary since its opening to 31st December, 1913, was 1527, of which 367 were contacts. The examination of contacts presents the greatest difficulty in antituberculosis work. This examination to be of

real service must be of a very careful and detailed character. The "walk past" advocated in certain quarters has proved in Bradford of little value for the detection of early or doubtful cases among contacts. It is a matter of extreme difficulty to get contacts to come to the dispensary for examination. The value of such a medical examination is not appreciated by the contact who feels well, while with the delicate contact the results of the examination is dreaded. In any case it is a trouble to come to the dispensary which at the present time few contacts care to take. It is a matter for consideration whether some other methods should not be resorted to for contact examination. For children the services of the school medical staff could be utilised and the examination made at the schools or at a children's tuberculosis dispensary. This latter arrangement has to some extent been already carried out in Bradford by the setting aside of a children's day at the dispensary. For adults contact examination might by arrangement be carried out in the homes when the contacts do not come to the dispensary, but for the success of such a system of home contact examination two things are necessary: (i.) an increased staff to carry the work out; and (ii.) a further improvement in the relationship with the general medical profession, as harmonious co-operation in a matter of this description is essential.

Methods of Treatment. Dr. Vallow, the Tuberculosis Officer, has made a careful analysis of different methods of treatment of tuberculosis in use in Bradford, and his results are given in full in the report which follows. His report deals with 150 cases divided in three groups of fifty, each group treated by different methods. The fifty cases in each group have not been in any way selected, but taken indiscriminately as they arose. Though the numbers are too small to permit of any general conclusion being drawn, the care and accuracy with which the facts have been got together enhance the value of the record.

REPORT BY DR. VALLOW ON DIFFERENT METHODS OF TREATMENT.

I have carefully analysed the different methods of treatment adopted in Bradford with the object of ascertaining how far each method of treatment is successful, and how far our policy of treatment can be improved.

The introduction of the use of tuberculin has complicated the analysis of the results of Sanatorium and Hospital treatment, and I have therefore been compelled to adopt a classification different from that usually employed.

It is as follows: (1) Cases suitable for tuberculin treatment with or without sanatorium treatment; (2) "Emulsion" cases with or without Sanatorium or Hospital treatment; and (3) Children treated with or without Sanatorium treatment, and with or without tuberculin treatment.

(1) *Tuberculin Treatment with or without Sanatorium Treatment.* In December, 1912, I analysed the results of fifty cases treated with tuberculin, and in May, 1914, I brought the results up to date.

Of the fifty cases twenty-two were treated both at the Sanatorium and the Dispensary, the period of Sanatorium treatment varying from one to six months, the average being eighty-six days, and twenty-eight were treated at the Dispensary alone.

RESULTS IN TERMS OF WORKING CAPACITY.

Working Capacity.	Before Treatment. (June, 1912).	Immediately after treatment.	Present time May 30th, 1914.
Full	32%	82%	76%
Partial	40%	12%	12%
None	28%	6%	12%

Fatality rate .. 6%

Five of these fifty cases were advanced and tuberculin was only given at the request of the patient ; of forty-five cases considered to be suitable for tuberculin treatment the results with respect to working capacity was, on May 30th, 1914, full in 83 per cent. of the cases, partial in 11 per cent., and none in 6 per cent. ; the fatality rate per cent. was 0.0.

It will thus be seen that a great amount of benefit has been derived from this treatment in selected cases. The results can be used as a "possible standard" to be aimed at, if the diagnosis is made early enough, and treatment at once commenced.

I have come to the conclusion that Tuberculin is likely to benefit one in every three or four of the cases.

Table T. (1) gives in great detail the main facts concerned with each case. The diagnosis of tubercle has been made by the practitioner in thirty-four of the cases, and confirmed at the Dispensary, and at the Dispensary in sixteen cases. Of the sixteen diagnosed at the Dispensary, four had tubercle bacilli in the sputum, seven had no tubercle bacilli in the sputum, and in five the sputum was not examined, as the diagnosis was undoubted. The location of the lesion has been placed under the heading of "Diagnosis." The length of Dispensary, Sanatorium, and Post-Sanatorium Dispensary Treatment has been given. The dosage, kind of tuberculin, and length of tuberculin treatment have been tabulated. The weights at the commencement of treatment, after Sanatorium treatment, and at the end of each tuberculin course are given, as also the working capacity before, during, and after treatment, and the general condition of the patient. The result of the sputum examinations is given and, under the heading of "Lesion," the effect of treatment has been described.

(2) "*Emulsion*" Cases with or without Sanatorium or Hospital Treatment. The kind of treatment adopted in these "emulsion" cases has been as follows:—(a) Emulsion, Cod Liver Oil, Extract of Malt, Malt and Oil, or Virol has been given ; (b) Sanatorium or Hospital treatment has been advised in every case, but for various reasons some of the patients have been unable to accept this method of treatment ; and (c) Care and after-care have been given as far as possible.

The types of case receiving this treatment have been (1) Old Sanatorium Cases, not receiving tuberculin (treated at a Sanatorium some time before—not the Bierley Hall Hospital) ; (2) Cases receiving

TABLE 1. (D).

Case	Sex	Age	Occupation	Notified		Diagnosis	Dis- pensary	Sani- torium	Post Sanatorium	Tuberculin Treat- ment		Tuberculin Course		Weight at treatment by each kind of tuber- cles, in ounces, and pounds		Working Capacity		General Condition		
				Pre- g.	Disp.					Date of Com- mence- ment	Date of Termination	Minimal	Dose	Maximal	Before	After	End of Tuberculin Course	Before	During	After	Before	After	T. b.
I.	F.	40	Housewife	Yes	...	Tub. glands of axilla	2 1/2 weeks	8 weeks	2 1/2 weeks	Oct. 28, 1912	May 27, 1913	'00100cc P.T.O., '00150cc H.E.	'00100cc P.T.O., '00150cc H.E.	st. lb. 9 0	st. lb. 9 1 1/2	Partial	...	Full	Good	Healed glands disappeared
II.	M.	25	Printer	Yes	...	Bilateral phthisis	12 months	...	...	July 4, 1912	Nov. 10, 1913	'00100cc P.T.O., '00100cc O.T.	'00100cc P.T.O., '00100cc O.T.	9 0	...	Partial	...	Full	Poor	Arrested
III.	F.	33	Weaver	Yes	...	Bilateral apical phthisis	4 weeks	4 weeks	16 weeks	June 26, 1912	Dec. 16, 1912	'00100cc P.T.O., '00100cc O.T.	'00100cc P.T.O., '00100cc O.T.	7 4 1/2	6 13	Partial	...	Full	Fair	Arrested
IV.	M.	40	Mill manager	...	Yes	Five ribs apex right, one left lung	10 months	...	...	July 22, 1912	April 14, 1913	'00100cc P.T.O., '00100cc H.E.	'00100cc P.T.O., '00100cc H.E.	11 0	10 3/4	Partial	...	Full	Good	Healed
V.	M.	48	Stonemason	Yes	...	Extensive disease	2 1/2 weeks	...	...	June 12, 1912	Nov. 11, 1912	'00100cc P.T.O., '00100cc O.T.	'00100cc P.T.O., '00100cc O.T.	9 10	9 7	None	...	Partial	Poor	Arrested
VI.	F.	33	Cotton winder	Yes	...	Early right apical disease	...	9 weeks	7 weeks	Aug. 12, 1912	Dec. 5, 1912	'00100cc P.T.O., '00100cc O.T.	'00100cc P.T.O., '00100cc O.T.	7 9 1/2	7 9 1/2	Partial	...	Full	Fair	Healed
VII.	F.	48	Housewife	Yes	...	Fibroid phthisis	18 months	...	...	July 8, 1912	April 21, 1913	'00100cc P.T.O., '00100cc O.T.	'00100cc P.T.O., '00100cc O.T.	8 1	7 5 1/2	None	...	Partial	Fair	In st. quo.
VIII.	M.	29	Clerk	Yes	...	Early left apex	7 months	...	...	June 17, 1912	Dec. 16, 1912	'00100cc P.T.O., '00100cc O.T.	'00100cc P.T.O., '00100cc O.T.	9 4	9 4	Full	...	Full	Fair	Healed
IX.	F.	21	Drawer	Yes	...	Bilateral disease	12 months	...	...	July 22, 1912	April 15, 1913	'00100cc P.T.O., '00100cc O.T.	'00100cc P.T.O., '00100cc O.T.	7 12 1/2	7 12 1/2	Full	...	Full	Fair	Arrested
X.	M.	29	Woolsorter	Yes	...	Bilateral disease	1 week	1 month	8 months	July 30, 1912	Jan. 19, 1913	'00100cc P.T.O., '00100cc O.T.	'00100cc P.T.O., '00100cc O.T.	8 12	8 6	Full	...	Full	Good	Healed
XI.	M.	21	Brushmaker	Yes	...	Right apex	12 months	...	...	Aug. 8, 1912	Mar. 17, 1913	'00100cc P.T.O., '00100cc O.T.	'00100cc P.T.O., '00100cc O.T.	9 7	9 7	Partial	...	Full	Fair	Arrested
XII.	F.	41	Charwoman	Yes	...	Bronchitis with superadded	16 months	...	...	July 30, 1912	Feb. 17, 1913	'00100cc P.T.O., '00100cc O.T.	'00100cc P.T.O., '00100cc O.T.	10 5	10 5	Partial	...	Full	Fair	Arrested
XIII.	F.	27	Housewife	...	Yes	Early lesion right apex	1 month	5 months	6 months	July 16, 1912	Feb. 3, 1913	'00100cc P.T.O., '00100cc H.E.	'00100cc P.T.O., '00100cc H.E.	7 11	5 2 1/2	Full	...	Full	Good	Healed
XIV.	F.	28	Cloth folder	...	Yes	Lesion right apex	3 weeks	4 weeks	14 weeks	July 1, 1912	Nov. 11, 1912	'00100cc P.T.O., '00100cc H.E.	'00100cc P.T.O., '00100cc H.E.	8 12	7 13 1/2	Full	...	Full	Fair	Arrested
XV.	F.	14 1/2	Millhand	...	Yes	Lesion left apex	...	2 months	5 months	Aug. 13, 1912	Feb. 28, 1913	'00100cc P.T.O., '00100cc H.E.	'00100cc P.T.O., '00100cc H.E.	6 3 1/2	6 2	Partial	...	Full	Poor	Healed
XVI.	M.	12	School	Yes	...	Basal phthisis	3 weeks	6 months	5 months	June 27, 1912	Jan. 7, 1913	'00100cc P.T.O., '00100cc O.T.	'00100cc P.T.O., '00100cc O.T.	5 0	5 12 1/2	None	...	Full	Poor	Healed
XVII.	F.	28	Spinner	Yes	...	Bilateral disease	15 months	...	...	Aug. 8, 1912	July 7, 1913	'00100cc P.T.O., '00100cc O.T.	'00100cc P.T.O., '00100cc O.T.	7 10	7 10	Partial	...	Full	Fair	Arrested
XVIII.	F.	21	Spinner	Yes	...	Apical disease and bronchitis	11 months	3 months	1 month	Aug. 13, 1912	Jan. 25, 1913	'00100cc P.T.O., '00100cc O.T.	'00100cc P.T.O., '00100cc O.T.	6 8	6 11 1/2	Partial	...	Partial	Poor	In st. quo.
XIX.	F.	18	Twister	...	Yes	Early apical disease	8 months	...	...	Aug. 11, 1912	Feb. 28, 1913	'00100cc P.T.O., '00100cc O.T.	'00100cc P.T.O., '00100cc O.T.	7 4	7 4 1/2	Full	...	Full	Fair	Healed
XX.	F.	28	Domestic	...	Yes	Early apical disease	7 months	...	...	July 15, 1912	Feb. 24, 1913	'00100cc P.T.O., '00100cc O.T.	'00100cc P.T.O., '00100cc O.T.	9 2	9 2	Full but with en- joyment	...	Full but with en- joyment	Good	Healed
XXI.	M.	40	Woodcomber	...	Yes	Early apical disease	12 weeks	5 weeks	8 weeks	June 10, 1912	Jan. 23, 1913	'00100cc P.T.O., '00150cc P.T.O.	'00100cc P.T.O., '00150cc P.T.O.	9 12 1/2	9 4	Full	...	Full	Poor	Healed
XXII.	M.	18	Apprentice brushmaking	Yes	...	Hemoptysis signs of phthisis	9 months	...	...	Sept. 20, 1912	June 23, 1913	'00100cc P.T.O., '00100cc O.T.	'00100cc P.T.O., '00100cc O.T.	10 12	...	...	...	...	...	...
XXIII.	M.	39	Brassfinisher	Yes	...	Right apex	1 month	2 months	4 months	July 15, 1912	Dec. 26, 1912	'00100cc P.T.O., '00100cc O.T.	'00100cc P.T.O., '00100cc O.T.	9 9	9 12 1/2	Partial	...	Full	Good	Healed
XXIV.	F.	26	Domestic	Yes	...	Early apical disease	10 months	...	...	July 23, 1912	May 9, 1913	'00100cc P.T.O., '00100cc O.T.	'00100cc P.T.O., '00100cc O.T.	8 2	7 11	Full	...	Full	Good	Healed
XXV.	F.	12	School	...	Yes	Tubercle and bronchitis	...	2 months	7 months	Aug. 26, 1912	June 23, 1913	'00100cc P.T.O., '00100cc O.T.	'00100cc P.T.O., '00100cc O.T.	4 6 1/2	4 0	None	...	Full	Fair	Healed
XXVI.	F.	11	School	...	Yes	Glands of neck (3) Lang signs	...	2 months	7 months	Aug. 26, 1912	June 23, 1913	'00100cc P.T.O., '00100cc O.T.	'00100cc P.T.O., '00100cc O.T.	5 2 1/2	4 7	None	...	Full	Good	Healed
XXVII.	F.	35	Housewife	Yes	...	Bilateral disease	15 months	11 weeks	...	Oct. 26, 1912	Dec. 18, 1913	'00100cc P.T.O., '00150cc O.T.	'00100cc P.T.O., '00150cc O.T.	...	10 3 1/2	None	...	Full	Poor	Arrested
XXVIII.	M.	20	Woodcomber	Yes	...	Early apical disease	...	12 weeks	16 weeks	Aug. 13, 1912	Mar. 14, 1913	'00100cc P.T.O., '00150cc T.A.F.	'00100cc P.T.O., '00150cc T.A.F.	7 0	6 10	Full	...	Full	Fair	Healed
XXIX.	M.	13	School	...	Yes	S.T.T. general disease local reaction	...	3 months	8 months	July 16, 1912	June 9, 1913	'00100cc P.T.O., '00100cc T.A.F.	'00100cc P.T.O., '00100cc T.A.F.	5 8	5 1	Partial	...	Full	Very fair	Healed
XXX.	M.	39	Iron dresser	Yes	...	Bilateral disease	9 weeks	10 weeks	25 weeks	July 16, 1912	May 23, 1913	'00100cc P.T.O., '00100cc O.T.	'00100cc P.T.O., '00100cc O.T.	11 4 1/2	10 12	Partial	...	Full	Very poor	Arrested
XXXI.	M.	56	Stonemason	Yes	...	Right apical disease	11 months	...	...	June 17, 1912	Nov. 13, 1912	'00100cc P.T.O., '00100cc O.T.	'00100cc P.T.O., '00100cc O.T.	10 5	10 10 1/2	None	...	Full	Very poor	Arrested
XXXII.	F.	9	School	Yes	...	Extensive disease	6 months	...	...	July 9, 1912	April 29, 1913	'00100cc P.T.O., '00100cc O.T.	'00100cc P.T.O., '00100cc O.T.	4 5	4 5	None	...	None	Very poor	In st. quo.
XXXIII.	M.	39	Yarn packer	Yes	...	Early lesion	13 months	...	...	Aug. 6, 1912	June 26, 1913	'00100cc P.T.O., '00100cc O.T.	'00100cc P.T.O., '00100cc O.T.	10 13 1/2	10 13 1/2	None	...	Full	Good	Healed
XXXIV.	M.	38	Engineman	Yes	...	Bilateral disease ad- vanced	21 months	...	...	July 7, 1912	Nov. 18, 1912	'00100cc P.T.O., '00100cc O.T.	'00100cc P.T.O., '00100cc O.T.	8 7	8 7 1/2	None	...	Partial	Poor	In st. quo.
XXXV.	F.	26	Printer	Yes	...	Extensive bi- lateral disease	11 months	...	...	July 2, 1912	Mar. 13, 1913	'00100cc P.T.O., '00100cc O.T.	'00100cc P.T.O., '00100cc O.T.	6 4	6 4	None	...	None	Poor	In st. quo.
XXXVI.	F.	23	Spinner	Yes	...	Extensive bi- lateral disease	8 months	...	...	Aug. 2, 1912	Mar. 11, 1913	'00100cc P.T.O., '00100cc O.T.	'00100cc P.T.O., '00100cc O.T.	6 9	6 12 1/2	None	...	None	Poor	...
XXXVII.	M.	38	Saddler	Yes	...	Early apical disease	12 months	...	...	June 17, 1912	Mar. 27, 1913	'00100cc P.T.O., '00100cc O.T.	'00100cc P.T.O., '00100cc O.T.	9 9 1/2	9 8	Partial	...	Full	Fair	Arrested
XXXVIII.	F.	30	Domestic	...	Yes	Subcutaneous tuberculin focal local rt. apex	3 weeks	4 months	9 months	Sept. 2, 1912	Aug. 7, 1913	'00100cc P.T.O., '00100cc O.T.	'00100cc P.T.O., '00100cc O.T.	7 13	7 13	Partial	...	Full	Very good	Healed
XXXIX.	F.	22	Wool ware- house	Yes	...	Early apical disease	10 months	...	...	Nov. 1, 1912	July 16, 1913	'00100cc P.T.O., '00100cc O.T.	'00100cc P.T.O., '00100cc O.T.	9 10	9 11	Full	...	Full	Good	Healed
XL.	M.	56	Letter-press printer	Yes	...	Apical disease and bronchitis	10 months	...	...	Aug. 19, 1912	Jan. 24, 1913	'00100cc P.T.O., '00100cc O.T.	'00100cc P.T.O., '00100cc O.T.	6 12	6 12	Full	...	Full	Fair	Arrested
XLI.	F.	26	Housewife	At- tention	...	Bilateral disease	5 months	...	...	Oct. 24, 1912	April 7, 1913	'00100cc P.T.O., '00100cc O.T.	'00100cc P.T.O., '00100cc O.T.	9 6 1/2	9 7	Full	...	Full	Good	Arrested
XLII.	F.	30	Millhand	...	Yes	S.T.T. general disease	6 weeks	13 weeks	14 weeks	Nov. 5, 1912	June 29, 1913	'00100cc P.T.O., '00100cc O.T.	'00100cc P.T.O., '00100cc O.T.	10 3	10 3	Partial	...	Full	Poor	Healed
XLIII.	M.	8	School	Yes	...	Basal phthisis	18 months	...	...	Aug. 24, 1912	Aug. 9, 1913	'00100cc P.T.O., '00100cc O.T.	'00100cc P.T.O., '00100cc O.T.	4 0	3 11	Full	...	Full	Good	Arrested
XLIV.	M.	18	Carter	Yes	...	Lesion left apex	11 months	...	...	Oct. 11, 1912	Sept. 17, 1913	'00100cc P.T.O., '00100cc O.T.	'00100cc P.T.O., '00100cc O.T.	10 3 1/2	10 3 1/2	Partial	...	Full	Fair	Arrested
XLV.	F.	34	Housewife	...	Yes	Glands of neck	4 months	...	...	Nov. 28, 1912	Mar. 29, 1913	'00100cc P.T.O., '00100cc O.T.	'00100cc P.T.O., '00100cc O.T.	8 4	8 8 1/2	Partial	...	Full	Fair	...
XLVI.	F.	6	School	Yes	...	Basal phthisis	4 months	4 months	6 months	Oct. 20, 1912	Dec. 20, 1913	'00100cc P.T.O., '00150cc P.T.O.	'00100cc P.T.O., '00150cc P.T.O.	3 0	2 13	None	...	None	Fair	Arrested
XLVII.	F.	34	Housewife	Yes	...	Bilateral disease	4 months	4 months	5 months	Nov. 1, 1912	Dec. 18, 1913	'00100cc P.T.O., '00100cc H.E.	'00100cc P.T.O., '00100cc H.E.	7 2	7 13 1/2	Partial	...	Full	Fair	Arrested
XLVIII.	M.	33	Hawker	Yes	...	Early apical disease	5 months	...	...	Nov. 11, 1912	April 17, 1913	'00100cc P.T.O., '00100cc O.T.	'00100cc P.T.O., '00100cc O.T.	9 4 1/2	9 3 1/2	Full	...	Full	Good	Healed
XLIX.	M.	7	School	...	Yes	Basal phthisis	12 months	...	...	Nov. 11, 1912	Sept. 22, 1913	'00100cc P.T.O., '00100cc H.E.	'00100cc P.T.O., '00100cc H.E.	3 0	3 0	None	...	Partial	Good	Arrested
L.	F.	33	Cotton winder	Yes	...	Right apical disease	9 weeks	8 weeks	9 weeks	Aug. 13, 1912	Dec. 5, 1912	'00100cc P.T.O., '00100cc O.T.	'00100cc P.T.O., '00100cc O.T.	7 12	7 9 1/2	Partial	...	Full	Poor	Arrested

TABLE T. (2).

EMULSION CASES WITH OR WITHOUT SANATORIUM TREATMENT.

Case	Age	Sex	Notified		"EMULSION" CASES.				Weight		General Condition	Working Capacity		
			Pract.	Disp.	Diagnosis	Treatment		Post Institutional Dispensary	Con-nice-ment	After Sana-torium		At Present	Before	After
						Dispensary	Sanatorium							
I.	23	M.	Yes	...	Bilateral disease (old Sanatorium case)	3 months	...	...	st. lb. 9 11	st. lb. ...	st. lb. 10 0	Improved	Partial	Partial
II.	31	M.	Yes	...	Extensive disease	...	9 weeks	5 months	7 8 1	8 10 1	7 11 1	Improved	Full	Full
III.	34	M.	Yes	...	Bilateral disease	2 months	7 months	2 months	10 9	11 11	11 6 1	Improved	None	Full
IV.	32	M.	Yes	...	Right apical disease	...	4 1/2 months	2 months	8 6 1	9 2 1	9 3	Improved	None	Full
V.	20	M.	Yes	...	Lesion right apex, middle lobe right lung	...	3 months	5 months	9 4	9 8 1	9 6	Improved	None	Full
VI.	22	M.	...	Yes	(?) Tubercle	5 months	...	...	9 10	...	9 11	Improved	None	Full
VII.	14	F.	Yes	...	(?) Left apex	6 months	4 months	4 months	6 9 1	7 10 1	8 1 1	Improved	None	Full
VIII.	26	M.	Yes	...	Lesion right apex (old Sanatorium case)	...	4 months	1 month	9 8	10 3 1	10 7	Improved	Full	Full
IX.	36	M.	Yes	...	Early tubercle	...	6 weeks	5 weeks	11 3 1	11 6 1	11 6	Improved	None	None to Canada
X.	33	F.	Yes	...	(?) Right apex	1 month	9 weeks	6 weeks	6 12	7 7 1	8 4 1	Improved	Partial	Full
XI.	46	M.	Yes	...	Tubercle of lungs	6 weeks	9 weeks	4 months	9 10 1	11 4 1	10 8 1	Improved	None	Full
XII.	43	M.	Yes	...	Right lung	2 months	9 weeks	...	11 0	12 9 1	...	Improved	Full	Full
XIII.	33	F.	Yes	...	Right apex	6 months	...	...	6 12	...	7 8 1	Improved	None	Full
XIV.	19	M.	Yes	...	Glands of neck, Tubercle of lungs	1 month	3 months	...	7 10 1	8 13	9 1	Improved	Full	Full
XV.	29	F.	Yes	...	Left apex	8 months	...	...	8 10	...	8 4	Improved	None	Full
XVI.	24	F.	Yes	...	Tubercle of lungs	2 months	14 weeks	1 month	8 8	9 1 1	8 8	Some im-provement	None	Full
XVII.	54	M.	Yes	...	Tubercle of lungs	1 month	6 weeks	8 months	9 8	10 6 1	9 13	Improved	None	Full
XVIII.	56	M.	Yes	...	Left apex	1 month	7 weeks	5 months	10 7	11 4	11 7	Marked im-prove-ment	None	Full
XIX.	6	F.	...	Yes	Glands of neck, etc. Early tubercle of lungs	6 months	14 weeks	5 months	3 1	3 7 1	3 7	Improved	Partial	Partial
XX.	10	F.	...	Yes	Bronchitis and tubercle	12 months	...	...	3 0	...	3 5 1	Same im-provement	Full	Full
XXI.	11	M.	...	Yes	Incipient tubercle Glands of neck.	10 months	...	...	5 9	...	6 5	Improved	Full	Full
XXII.	16	F.	Yes	...	(?) Tubercle of lungs	2 months	2 months	...	6 9 1	7 4 1	7 3	Slight im-provement	None	None
XXIII.	29	M.	Yes	...	(?) Tubercle	11 months	...	...	8 6	...	8 13	Same im-provement	None	None
XXIV.	23	F.	Yes	...	Right apex	5 months	2 months	1 month	7 1 1	7 9 1	7 7 1	Improved	None	None
XXV.	41	M.	Yes	...	Left apex	3 months	6 weeks	1 month	9 4 1	9 13	9 1	Improved	None	None
XXVI.	23	M.	Yes	...	Extensive disease right lung. Pleural effusion	...	8 months	7 months	7 12	9 11 1	8 11 1	Improved	None	Partial
XXVII.	40	F.	Yes	...	Bilateral disease	2 months	2 months	2 months	6 4 1	7 10	8 6 1	Improved	None	Partial
XXVIII.	38	F.	Yes	...	Right apex	2 months	11 weeks	3 months	5 12 1	6 11	6 7 1	Improved	None	Partial
XXIX.	50	M.	Yes	...	Bilateral disease	8 months	...	...	11 3 1	...	11 2	Improved	None	None
XXX.	19	F.	Yes	...	Extensive bilateral disease	...	4 1/2 months	12 months	6 12	7 10 1	6 2	Poor im-provement in Sana-torium not improved outside	None	None
XXXI.	37	F.	Yes	...	Extensive bilateral disease	8 months	9 weeks	9 weeks	7 11	7 9	7 5	Poor	Partial	Partial
XXXII.	56	M.	Yes	...	Chronic bronchitis with tubercle super-added	19 months	...	...	9 6 1	...	9 9	In st. quo.	None	None
XXXIII.	44	M.	Yes	...	Lesion right apex (old Sanatorium case)	5 months	...	...	11 3 1	...	10 2 1	In st. quo.	None	None
XXXIV.	44	F.	Yes	...	Tubercle of throat	14 months	...	...	5 11	...	5 10 1	In st. quo.	None	None
XXXV.	48	M.	Yes	...	Bilateral disease	19 months	...	...	7 8 1	...	7 8	In st. quo.	None	None
XXXVI.	24	F.	Yes	...	Bronchitis and tubercle	13 months	...	...	6 12	...	7 0	In st. quo.	None	None
XXXVII.	30	F.	Yes	...	Bronchitis and tubercle	...	3 months	3 months	8 10 1	8 12 1	9 3	In st. quo.	None	None
XXXVIII.	32	M.	Yes	...	Asthma and bronchitis (?) Tubercle	...	9 weeks	2 months	8 10	9 12 1	8 10	In st. quo.	None	None
XXXIX.	36	M.	Yes	...	Cardiac disease (?) Tubercle left apex	...	3 months	3 months	10 3	10 12 1	10 5	In st. quo.	None	None
XL.	30	M.	Yes	...	Bilateral disease	...	18 weeks	1 month	8 11	10 2	10 2	Improved	None	None
XLI.	41	M.	Yes	...	Slight bilateral disease	1 month	13 weeks	4 months	8 3 1	9 4 1	8 2	Improved	None	Full
XLII.	34	F.	Yes	...	Bronchitis and tubercle	8 months	...	...	8 2	...	8 4	In st. quo.	None	None
XLIII.	45	M.	Yes	...	Tubercle right lung	7 months	...	...	8 5 1	...	8 5	In st. quo.	None	None
XLIV.	27	F.	...	Yes	Tubercle right lung	14 months	...	...	8 2 1	...	8 11	Improved	None	Partial
XLV.	27	F.	Yes	...	Bronchitis and tubercle	...	4 months	2 months	8 1	8 4	8 3	Improved	None	None
XLVI.	21	F.	Yes	...	Tubercle right lung	...	...	...	7 6	6 9 1	...	Worse	None	None
XLVII.	56	M.	Yes	...	Bilateral disease (ad-vanced)	7 months	...	...	8 6 1	...	9 1	In st. quo.	None	None
XLVIII.	40	F.	Yes	...	Bilateral disease (very advanced)	16 months	...	...	6 2 1	...	6 3	In st. quo.	None	None
XLIX.	36	M.	Yes	...	Very extensive disease	...	14 weeks	12 months	7 11	8 13 1	7 13	In st. quo.	None	Partial
L.	33	F.	Yes	...	Collapse right lung, due to pleuritic effusion (tuberculous)	8 months	...	...	11 3 1	...	11 2	In st. quo.	None	None

TABLE T. (2).

EMULSION CASES WITH OR WITHOUT SANATORIUM TREATMENT.

Case	Age	Sex	Notified		Diagnosis	"Emulsion" Cases.			Weight			General Condition	Working Capacity	
			P	D		Disp	Treatment	Post Institutional Dispensary	Com- mence- ment	After San- atorium	At Present		Before	After
I.	23	M.	Yes	...	Bilateral disease (old Sanatorium case)	3 months	...	st. lb. 9 11	st. lb. ...	st. lb. 10 0	Improved	Partial	Partial	
II.	31	M.	Yes	...	Extensive disease	...	9 weeks	7 8 1/2	8 10 1/2	7 1 1/2	Improved	Full	Full	
III.	34	M.	Yes	...	Bilateral disease	2 months	7 months	10 9	11 11	11 6 1/2	Improved	None	Full	
IV.	32	M.	Yes	...	Right apical disease	...	4 1/2 months	8 6 1/2	9 2 1/2	9 3	Improved	None	Full	
V.	20	M.	Yes	...	Lesion right apex, right lung	...	3 months	9 4	9 8 1/2	9 6	Improved	None	Full	
VI.	22	M.	...	Yes	(?) Tubercle	5 months	...	9 10	...	9 11	Improved	None	Full	
VII.	14	F.	Yes	...	(?) Left apex	...	6 months	6 9 1/2	7 10 1/2	8 1 1/2	Improved	None	Full	
VIII.	26	M.	Yes	...	Lesion right apex (old Sanatorium case)	...	4 months	9 8	10 3 1/2	10 7	Improved	Full	Full	
IX.	36	M.	Yes	...	Early tubercle	...	6 weeks	11 3 1/2	11 6 1/2	11 6	Improved	None	Care to Canada	
X.	33	F.	Yes	...	(?) Right apex	1 month	9 weeks	6 12	7 7 1/2	8 4 1/2	Improved	Partial	Full	
XI.	46	M.	Yes	...	Tubercle of lungs	6 weeks	9 weeks	9 10 1/2	11 4 1/2	10 8 1/2	Improved	None	Full	
XII.	43	M.	Yes	...	Right lung	2 months	9 weeks	11 0	12 9 1/2	...	Improved	Full	Full	
XIII.	33	F.	Yes	...	Right apex	6 months	...	6 12	...	7 8 1/2	Improved	None	Full	
XIV.	19	M.	Yes	...	Glands of neck, Tubercle of lungs	1 month	3 months	7 10 1/2	8 13	9 1	Improved	Full	Full	
XV.	29	F.	Yes	...	Left apex	8 months	...	8 10	...	8 4	Improved	None	Full	
XVI.	24	F.	Yes	...	Tubercle of lungs	2 months	14 weeks	8 8	9 1 1/2	8 8	Some im- provement	None	Full	
XVII.	54	M.	Yes	...	Tubercle of lungs	1 month	6 weeks	9 8	10 6 1/2	9 13	Improved	None	Full	
XVIII.	56	M.	Yes	...	Left apex	1 month	7 weeks	10 7	11 4	11 7	Marked im- provement	None	Full	
XIX.	6	F.	...	Yes	Glands of neck, etc. Early tubercle of lungs	6 months	14 weeks	3 1	3 7 1/2	3 7	Improved	Partial	Partial	
XX.	20	F.	...	Yes	Bronchitis and tubercle	12 months	...	3 0	...	3 5 1/2	Some im- provement	Full	Full	
XXI.	11	M.	...	Yes	Incipient tubercle. Glands of neck, (?) Tubercle of lungs	10 months	...	5 9	...	6 5	Improved	Full	Full	
XXII.	16	F.	Yes	...	Extensive bilateral disease	2 months	2 months	6 9 1/2	7 4 1/2	7 3	Slight im- provement	None	None	
XXIII.	29	M.	Yes	...	(?) Tubercle	11 months	...	8 6	...	8 13	Some im- provement	None	None	
XXIV.	23	F.	Yes	...	Right apex	5 months	2 months	7 1 1/2	7 9 1/2	7 7 1/2	Improved	None	None	
XXV.	41	M.	Yes	...	Left apex	3 months	6 weeks	9 4 1/2	9 13	9 1	Improved	None	None	
XXVI.	23	M.	Yes	...	Extensive disease right apex. Disease left lung. Pleural effu- sion	...	8 months	7 12	9 11 1/2	8 11 1/2	Improved	None	Partial	
XXVII.	40	F.	Yes	...	Bilateral disease	2 months	2 months	6 4 1/2	7 10	8 6 1/2	Improved	None	Partial	
XXVIII.	38	F.	Yes	...	Right apex	2 months	11 weeks	5 1 1/2	6 11	6 7 1/2	Improved	None	Partial	
XXIX.	50	M.	Yes	...	Bilateral disease	8 months	...	11 3 1/2	...	11 2	Improved	None	Partial	
XXX.	19	F.	Yes	...	Extensive bilateral disease	4 1/2 months	...	6 12	7 10 1/2	6 2	Poor	None	None	
XXXI.	37	F.	Yes	...	Extensive bilateral disease	8 months	9 weeks	7 11	7 9	7 5	Poor	Partial	Partial	
XXXII.	56	M.	Yes	...	Chronic bronchitis with tubercle super- added	19 months	...	9 6 1/2	...	9 9	In st. quo.	None	None	
XXXIII.	44	M.	Yes	...	Lesion right apex (old Sanatorium case)	5 months	...	11 3 1/2	...	10 2 1/2	In st. quo.	None	None	
XXXIV.	44	F.	Yes	...	Tubercle of throat	14 months	...	5 11	...	5 10 1/2	In st. quo.	None	None	
XXXV.	48	M.	Yes	...	Bilateral disease	19 months	...	7 8 1/2	...	7 8	In st. quo.	None	None	
XXXVI.	24	F.	Yes	...	Bronchitis and tubercle	13 months	...	6 12	...	7 0	In st. quo.	None	None	
XXXVII.	30	F.	Yes	...	Bronchitis and tubercle	3 months	3 months	8 10 1/2	8 12 1/2	9 3	In st. quo.	None	None	
XXXVIII.	32	M.	Yes	...	Asthma and bronchitis (?) Tubercle	9 weeks	2 months	9 12 1/2	9 17 1/2	8 20	In st. quo.	None	None	
XXXIX.	36	M.	Yes	...	Cardiac disease (?) Tubercle left apex	3 months	3 months	10 3	10 12 1/2	10 5	In st. quo.	None	None	
XL.	30	M.	Yes	...	Bilateral disease	18 weeks	1 month	8 11	10 2	10 2	Improved	None	None	
XLI.	47	M.	Yes	...	Slight bilateral dis- ease	13 weeks	4 months	8 3 1/2	9 4 1/2	8 2	Improved	None	Full	
XLII.	34	F.	Yes	...	Bronchitis and tubercle	...	8 months	8 2	...	8 4	In st. quo.	None	None	
XLIII.	45	M.	Yes	...	Tubercle right lung	7 months	...	8 5 1/2	...	8 5	In st. quo.	None	None	
XLIV.	27	F.	...	Yes	Tubercle right lung	14 months	...	8 2 1/2	...	8 11	Improved	None	Partial	
XLV.	27	F.	Yes	...	Bronchitis and tubercle	4 months	2 months	8 1	8 4	8 3	Improved	None	None	
XLVI.	21	F.	Yes	...	Tubercle right lung	...	18 weeks	7 6	6 9 1/2	...	Worse	None	None	
XLVII.	56	M.	Yes	...	Bilateral disease (ad- vanced)	7 months	...	8 6 1/2	...	9 1	In st. quo.	None	None	
XLVIII.	40	F.	Yes	...	Bilateral disease (very advanced)	16 months	...	6 2 1/2	...	6 3	In st. quo.	None	None	
XLIX.	36	M.	Yes	...	Very extensive disease	...	8 months	7 11	8 13 1/2	7 13	In st. quo.	None	Partial	
L.	33	F.	Yes	...	Collapse right lung, due to pleuritic effu- sion (tuberculous)	...	...	11 3 1/2	...	11 2	In st. quo.	None	None

tuberculin treatment. We have now no cases refusing tuberculin treatment—when the Dispensary was opened many patients refused this treatment, but the patients have now learned that tuberculin is only given in selected cases and that these patients improve, consequently we have to refuse to give this preparation on many occasions in unsuitable cases; (3) Cases unsuitable for tuberculin treatment. Of the fifty cases thirty-one had Sanatorium or Hospital treatment, followed by either Dispensary or Domiciliary treatment, while nineteen were treated at the Dispensary alone.

RESULTS IN TERMS OF WORKING CAPACITY.

Working Capacity	Before Treatment	After Treatment
Full	12%	40%
Partial	8%	18%
None	80%	42%

Table T. (2) contains the complete analysis. In these cases the diagnosis of tubercle was made by the practitioner in forty-five cases, and at the Dispensary in five cases.

(3) *Children with or without Sanatorium Treatment and with or without Tuberculin Treatment.* The treatment of School Children suffering from early tuberculosis is very satisfactory.

I believe that the results are somewhat better when tuberculin is given in suitable cases, but the "Emulsion" type of case, with open-air treatment, progresses much more satisfactorily than adults.

Table T. (3) contains a complete detailed account of each of fifty cases.

IV.—THE MEANS FOR PREVENTING MORTALITY IN CHILD BIRTH AND INFANCY.

(A) MATERNITY.

At the close of the year there were fifty-eight midwives practising in the City of whom twenty-two held the Central Midwives Board Certificate or a certificate from a recognised hospital, while thirty-six were on the register as *bona fide* practitioners before the passing of the Midwives Act, 1902. During the year three *bona fide* midwives died.

In Bradford the midwives appear to attend about 50 per cent. of the births. The number of notifications of sending for medical help was 364, or roughly 13·5 per cent of their cases. A list of these notifications follows. In 265 cases medical aid was called in on account of the mother, and in ninety-nine cases on account of the child. In the cases where medical help was required on account of the mother, in 211 the circumstances arose during the confinement, and in fifty-five during the ensuing ten days.

MEDICAL AID NOTIFICATIONS, 1913.

MOTHER.

Delayed labour	..	..	64	High temperature	..	..	10
Premature births	..	..	12	Prolapse of uterus	..	..	1
Malpresentations	..	..	31	White leg	..	..	2
Contracted pelvis	..	..	10	Eclampsia	..	..	5
Ruptured perinaeum	..	..	27	Epilepsy	..	..	2
Instrumental labour	..	..	33	Mastitis	..	..	4
Adherent placenta	..	..	9	Varicose veins	..	..	1
Uterine inertia	..	..	2	Retained membranes	..	..	1
P.P. Hæmorrhage	..	..	5	Purulent discharge	..	..	1
A.P. Hæmorrhage	..	..	10	Illness of mother after con-			
Placenta prævia	..	..	3	finement	..	..	11

MEDICAL AID NOTIFICATIONS, 1913—*continued*.

MOTHER.							
Abortions	..	..	..	6	Still-births before mid-wife's		
Threatened abortion	..			1	arrival	..	..
Weak Heart	..	..	..	6		..	7
							<hr/>
							265
CHILD.							
Malformations	..	..	..	7	Inflammation in eyes	..	46
Debility of infant	..	..	..	38	Cyanosis	..	..
Convulsions	..	..	..	5	Circumcision	..	..
							<hr/>
Total							99

Notice was sent to the Local Supervising Authority of the deaths of seven infants under the care of midwives before the arrival of a medical practitioner. The midwives reported under the Rules of the Central Midwives Board 111 cases of still-births.

The number of inspections made by the Midwives Inspector was 632, of which 338 were inspections of the midwives' homes, registers and appliances, and 294 special inspections of their work.

Four infringements of the Rules of the Central Midwives Board were dealt with, and in 3 of the cases a *prima facie* case of negligence was found.

The complaint in each of these three cases was of neglect in dealing with inflammation of the eyes in infants. One midwife was struck off the Roll, another was put under special supervision for six months, while the third was cautioned.

The number of cases of puerperal fever occurring in the practice of midwives was nine.

A course of lectures for the purpose of preparing pupil midwives for the Examination of the Central Midwives Board was given under

arrangements made with the Education Committee by a recognised teacher and was attended by twenty-nine pupils.

(B) PRENATAL HYGIENE.

The number of deaths which arise in Bradford from congenital causes is very large and shows little sign of any material decrease. At the present moment it accounts for roughly 30 to 40 per cent. of the mortality amongst infants. These deaths chiefly occur within the first four weeks of life and the numbers at these ages in each year from 1905 are shown in the following table :—

DEATHS IN THE FIRST FOUR WEEKS OF LIFE.

Year	Week				Total	Proportion of Infantile Deaths
	1	2	3	4		
1905	185	35	39	39	295	33·8
1906	189	40	45	18	292	32·3
1907	153	43	37	30	263	36·9
1908	202	28	60	28	318	37·0
1909	189	26	29	29	273	42·8
1910	154	34	29	32	248	35·8
1911	185	40	31	26	282	36·7
1912	165	29	32	18	244	44·1
1913	187	38	36	18	279	37·6

But the full extent of the vital loss to the community is not estimated by the number of actual deaths registered as due to congenital causes for each year in Bradford. A large number of livable children

are born dead, who but for the same causes might have lived healthy lives. The number of these still-born infants cannot be correctly stated, but a near approximation is got from the notifications under the Notification of Births Act, 1907. During the past four years the numbers of still-births notified have been in 1910, 167; in 1911, 220; in 1912, 230; and in 1913, 270. The causes which bring about these deaths and still-births amounting together in Bradford each year to about 500 have relationship to the life of the infant before birth.

It is hardly possible at the present time to enumerate all these causes, but they may be considered generally in three groups, according to the times in pregnancy in which they have their chief effect. In the first group the causes act during the whole of pregnancy, in the second particularly in the later months, and in the third at the time of delivery.

Disease in the mother is the greatest factor amongst the first group of causes. In attempting to deal specially with deaths arising from congenital causes there are some reasons against making this group the first point of attack. The infants who are likely to survive as the offspring of diseased parents are not those who will in the majority of cases be free from disease themselves. The efforts of public health authorities in these cases are best spent in eradicating disease in the parents. Fortunately the number of infants who die in Bradford from this group as compared with the other groups of congenital causes is comparatively small.

The causes which operate chiefly during the later months of pregnancy are very varied. Maternal hygiene may be defective in so many ways and a very real amount of ignorance on the subject exists among women. The failure to seek advice undoubtedly prevents many defects being remedied at the proper time. At this stage of pregnancy also, malnutrition in the mother and inappropriate work such as factory labour have the most potent effect upon the well-being of the coming child.

Abnormal and mismanaged labours as well as the difficulty found by certain classes of the community in obtaining skilled assistance in child birth are the principal causes operating at the time of delivery.

The difficulties surrounding any attempt by a health authority to take beneficial action in antenatal and natal hygiene are great, but they are not insurmountable. The subject is at present under consideration by the Health Committee, and it is hoped that some practical method of prevention may be evolved.

(C) INFANCY.

During the year 1913 the number of births registered in Bradford was 5,811, while the number notified under the Notification of Births Act, 1907, was 5,666.

During the past three years about 95 per cent. of the births registered have been notified.

RECORD OF PREVIOUS YEARS.

	1909	1910	1911	1912	1913
Births registered ..	5507	5490	5480	5586	5811
Births notified.. ..	4910	5035	5307	5582	5666
*Notifications to 100 registrations ..	69.1	91.7	96.8	99.9	97.3

* The comparisons here are not quite accurate as the births notified include still-births which are not registered.

Although the percentage of births notified is satisfactorily high, considerable delay occurs frequently in the dispatch of the notification. This apparently is due to the confusion which is apt to arise when one duty is required of so many different persons.

The notifications under the Act must be made by (1) the father of the child if he is actually resident in the house, and (2) any person in attendance on the mother at the time of or within six hours of the birth. The cases to be notified include not only live births, but also still-births after the seventh month of pregnancy. The notification has to be made within thirty-six hours after the birth and a penalty of 20s. is attached to failure to notify within that time with the proviso that a person shall not be liable to a penalty if he satisfies the Court that he had reasonable grounds to believe that notice had already been given by some other person. The persons notifying and the time of receipt of notification is seen in the following table :—

TIME OF RECEIPT OF NOTIFICATIONS OF BIRTH IN 1913.

Persons notifying	Receipt of Notification					1—2 months	2—3 months	Total	Per cent. received late
	Within 2 days	3—7 days	1—2 weeks	2—3 weeks	3—4 weeks				
Doctor.. ..	1775	136	26	11	4	1	1	1954	9.1
Midwife ..	2536	91	10	2	—	1	—	2640	3.9
Father ..	819	62	17	2	3	4	—	907	9.7
*Doctor and Midwife ..	79	1	—	—	—	—	—	80	1.2
*Father and Doctor ..	15	—	—	—	—	—	—	15	0.0
*Father and Midwife ..	3	—	—	—	—	—	—	3	0.0
Institutions ..	67	—	—	—	—	—	—	67	0.0
Total ..	5294	290	53	15	7	6	1	5666	6.5

* When two notifications have been received only one entry has been made in the table under the time of the receipt of the first notification.

Adding the births not notified it would appear the notification is not properly carried out in about 10 per cent. of the cases. During

the year proceedings were instituted against two unregistered midwives for failing to notify births, but in these cases no conviction was secured as one pleaded she had given the card to her son to post who had failed to do so, while the other said the doctor who attended twenty-four hours later had promised to notify. The doctor in the latter case not being in attendance within six hours did not require to send a notification certificate.

Following the receipt of the notification a large proportion of the births are visited by the Health Visitors to advise the mother as to the rearing of the infant. The visit is almost invariably welcomed especially when it is a first baby. The mother is encouraged to talk about her family and the visitor tries to form in her own mind an estimate of the peculiar dangers to its health to which this baby is likely to be exposed, and when the risks seem great the case is marked for further early visiting. The baby is weighed and particulars of the general condition and weight are noted for reference.

The selection of the cases for visitation depends largely on the local knowledge of the visitor, but speaking generally all cases notified by midwives are visited as soon as possible after the birth as well as those cases with doctors in attendance where the home circumstances are known to be poor.

BIRTHS VISITED IN 1913.

Person in attendance	Times between Birth and Visit					Total
	1 week	2 weeks	3 weeks	4 weeks	Over 4 weeks	
Doctor ..	321	363	137	65	133	1019
Midwife ..	1637	587	107	49	93	2473

The infants noted for re-visitation fall generally into one or more of the following six classes :—(1) infants found hand fed or partly hand fed at the time of the first visit ; (2) infants whose mothers are likely to give over breast feeding before nine months have elapsed ; (3) infants in families where already one or more infantile deaths have occurred ; (4) premature infants and the infants of diseased parents ; (6) infants who from any other cause social, or physical, appearing to the health visitor require continuous supervision.

Of the 3,492 births visited it was considered that 438 required visitation once only during the first year while 3,054 were selected for continuous observation during their first year of life. Of these cases 257 passed before that time from the health visitor's survey, the majority of whom left the district, while 2,777 were regularly under supervision.

The first and foremost duty of the health visitor is to promote breast feeding and the early visitation places her in a good position to do this. It cannot be too strongly insisted on that no other kind of feeding of infants is to be compared with that which nature has provided, and any system of preservation of infant life which does anything to encourage the belief that there is to be found an efficient substitute for the healthy mother's milk is foredoomed to failure. It is right and proper that every effort should be made to provide the hand fed infant with the best food which the wisdom of man can devise, but the provision of such a food must be confined to infants who from a good and sufficient cause can not be fed naturally. It must never be used by the mother as a frivolous excuse for giving breast feeding up.

Of the 1,894 infants under observation who in 1913 completed their first year of life, 896 only were breast fed for more than six months, 156 were hand fed from birth, 32 had mixed feeding from birth, while 810 were weaned or partially weaned before the age of six months.

FEEDING OF INFANTS COMPLETING THE FIRST YEAR.

	Hand fed from birth	Mixed feeding from birth	Wholly breast fed			
			Under 1 month	Under 3 months	Under 6 months	Under 9 months
Infants ..	156	32	335	283	192	896
Percentage	8.3	1.7	17.7	14.9	10.0	47.3

Only 47.3 per cent. of the children were breast fed for a period over six months ; there are therefore 52.7 per cent. not breast fed for six months.

Of the causes which operate in Bradford which interfere with breast feeding, married women's work is the chief, reference is made to this subject on page 105.

WORK OF MOTHERS VISITED IN 1913.

	Outside the home			Inside the Home
	Factories	Other Work	Total	
Within six months before birth ..	581	118	699	1195
Within six months after birth	334	81	415	*1479

* Including one mother who died.

From this table it will be seen that of the mothers visited 36.9 per cent. were working outside the home within six months before confine-

ment, while 21.9 per cent. went back to work within six months after confinement.

Out of the 52.7 per cent. of infants not breast fed for six months, after deducting the 21.9 per cent. whose mothers went back to work, there remains 30.8 per cent. in whom breast feeding was wholly or partly given up for some other reason. This is a very large proportion and not easily accounted for.

Poverty, in interfering with breast feeding, does so chiefly by sending the mother too early back to work and to a lesser extent when the mother remains at home by setting up a debility in herself. For the relief of this debility in the mother resulting from the impoverishment of the home and causing itself a failure in the sufficiency of breast milk the health visitors are, by the instructions of the Health Committee, able to do something by giving orders for the free supply of municipal milk for the use of the mother, and, by the kindness of various charitable persons, food of other characters, *e.g.*, bread and rolls, have been sent to destitute mothers on the recommendation of the visitors. It cannot also be doubted that the maternity benefit under the National Insurance Act, 1911, in affording material aid at the time of confinement greatly helps to maintain the mother's strength. But maternal malnutrition due to poverty arises from too far reaching a cause to be wholly remedied by such partial measures as these. It should also be noted here that maternal feeding by municipal milk is an expensive way of combating malnutrition in the mother. The function of lactation is not dependent on filtration, and substantial nourishing meals to mothers in suitable cases would equally if not better promote the secretion of milk.

But the state of health of the mother due to poverty explains only a very small proportion of the 30.8 per cent. of hand fed infants whose

mothers stay at home. Nor is the general state of health due to other causes sufficient to account for it, for of the mothers of the whole 1,894 infants under consideration in 1,273 cases it was thought to be good, in 503 cases fair, and in only 118 was the health stated to be poor. But even were it sufficiently great to account for the discontinuance of lactation the proper remedy in the majority of cases is surely to attempt to improve the mother's health while at the same time continuing breast feeding. The doctrine of the essentially pernicious influence of lactation on the mother's health is no longer held by any observant physician and the belief in an idiopathic failing in the function of the mammary glands in modern women is happily now supported by very few. Lactation itself is an integral feature of motherhood, and its failure in all or nearly all cases has definite ascertainable causes which must be dealt with successfully if the wastage of infant life is to cease.

The general care of the 1,894 infants was, in the opinion of the health visitors, stated to be good in 1,404 cases, in 437 cases it was thought to be fair, and in fifty-three cases poor.

The father's occupation in these families, where it could be ascertained, were as follows:—skilled workmen, 270; workers in mills, 666; labourers, 550; hawkers, 32; and miscellaneous, 369. The father's health was said to be very good in 1,577 cases; fair in 237 cases; and poor in eighty cases; six fathers died shortly after the birth of the child.

Infant Consultations. This institution was established in the middle of 1912, and began work in temporary premises in Channing Hall where the work was continued throughout 1913.

The chief objects of the consultations are as follows:—

(a) To afford mothers the best available advice on all questions

affecting the health and welfare of infancy and generally to instruct mothers in infant hygiene.

- (b) To encourage all mothers wherever possible to breast feed their infants.
- (c) To prescribe in detail the exact dietary for all infants especially for those handfed, and to ascertain and afford if need be the means of procuring the special dietary required.
- (d) To maintain a skilled supervision of all infants brought to the consultations in order that any abnormal conditions may be detected at the earliest possible moment.
- (e) To provide medical treatment in hospital or otherwise of disease in infancy when this cannot be otherwise secured.

The Health Visitors co-operate with the Consultations and advise mothers to bring their infants there for further practical advice as to the best means of infant care. The visitors also follow up infants in attendance and see that the instructions given are properly carried out in the homes.

The Staff at the Consultations is engaged whole time in the work and consists of two medical women and an adequate number of nurses and others.

Little difficulty has been encountered in having all infants brought to the Consultations where the circumstances specially require such supervision. In practice the Consultations are particularly used in the cases of

- (a) Infants in poor homes.
- (b) Infants whose mothers go out to work.
- (c) Infants necessarily hand fed and other delicate or ailing infants.
- (d) Illegitimate infants.

An infant brought to the Consultation is seen by one of the medical staff there who examines it carefully and records all the important facts in its physical condition and family history. The mother's own health is enquired into and detailed advice is given as to the rearing of the infant and the maintenance of maternal health during lactation. In those hand fed infants where more simple milk preparations are indicated advice is given to the mother as to how she may prepare these. Such instruction is both theoretical and practical, the mother being actually shown the process of preparation. When, however, the food necessary is of a complex character requiring laboratory methods it is prepared in the milk laboratory according to the prescription of the physician. If the infant is ailing the physician attempts to ascertain the cause of the illness and takes all necessary measures to secure treatment for it. A medical dispensary is provided at the Consultations, but drug treatment is only used as ancillary to other means, as the main object of the institution is to preserve the health of infants by hygienic measures. In addition to questions of feeding, the methods and kinds of clothing, bathing, washing the eyes and mouth, the general toilet of the skin, and all other questions of infancy receive attention, and instructions therein are given to the mothers.

Where an infant is so severely ill or requires more detailed attention than can be given as an outpatient at the Consultations the offer of a short period of residence in the infants' hospital is made. In the new premises now occupied the infants' hospital is attached.

It has been found necessary in the case of many poorer infants to make arrangements for the free provision of a suitable food where they are hand fed, and this has proved of great value.

The number of infants in attendance at the Consultations in the first year of working has been 1,523. No less than 808 of these babies

were sick when brought to the Consultation while 912 were either wholly or partly hand fed.

At the end of 1913 the total number of consultations held since the opening of the Institution was 25,207 affecting 2,362 infants.

The work has continuously expanded since its commencement and the premises in which it was being carried on soon proved hopelessly inadequate for the purpose. The erection of the new premises in Morley Street has now provided excellent accommodation and will permit a much fuller development of this important work.

(D) INFANT MORTALITY IN 1913.

It has already been noted on page 7 that there was a great increase in the infantile mortality rate last year. Table IV., page 164, gives in detail the diseases from which the deaths arose.

INFANTILE DEATHS IN PREVIOUS YEARS.

	1905	1906	1907	1908	1909	1910	1911	1912	1913
Zymotic diseases ..	58	57	50	45	34	71	48	23	33
Tuberculous diseases ..	27	28	26	38	28	23	14	13	28
Diarrhœa, &c.	142	216	55	162	45	96	180	25	156
Congenital causes ..	330	315	299	364	282	277	288	256	295
Pulmonary diseases ..	151	99	146	108	95	82	91	114	96
Convulsions ..	64	92	61	55	63	58	60	69	53
All other causes	101	96	76	418	90	88	84	53	80
Total ..	873	903	713	860	637	695	765	553	741

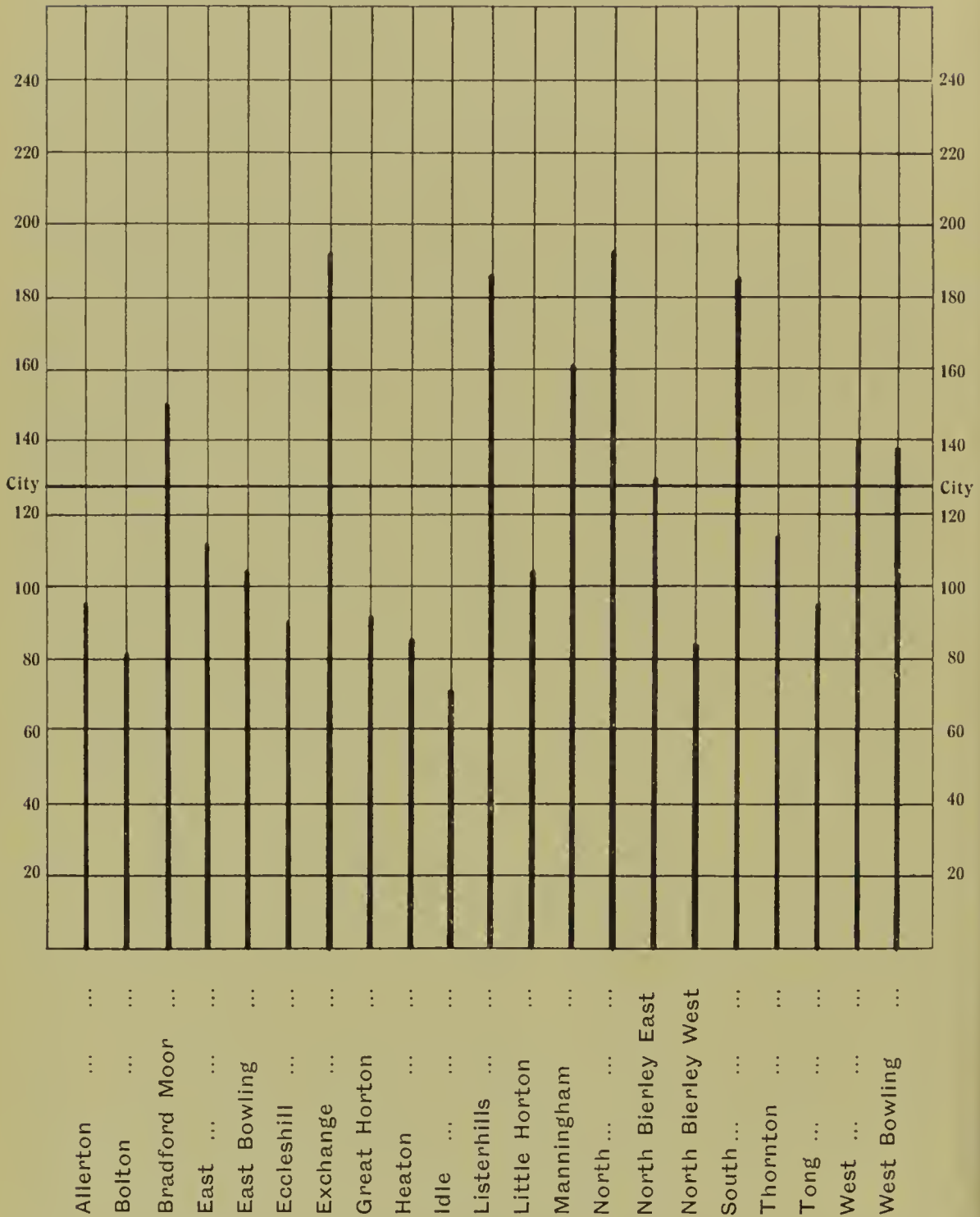
It will be seen that a very large increase took place in the number of deaths from diarrhœal diseases, while smaller increases are noted in the number due to congenital causes, tuberculous diseases, zymotic diseases, and miscellaneous causes. The year 1913 ranks with the years 1905, 1906, 1908, and 1911 as one of high infantile mortality due mainly to the prevalence of summer diarrhœa. This high rate is to be associated mainly with the meteorological conditions pertaining throughout the summer and autumn. On account of the similarity of the weather in 1911 a more accurate comparison may be made with that year than with 1912. The infantile mortality rate in 1913 was 8.0 per cent. below that of 1911, while the death rate from diarrhœa and enteritis under two years was 12.9 per cent. below that of 1911. Both these figures are fairly satisfactory and show that some progress is being made.

The table on page 75, and the chart on page 79, show that a continuous fall is taking place in the infantile mortality rate in Bradford. There is still, however, much room for improvement and it is hoped that the greatly increased efforts now being made will still further and more rapidly reduce the rate.

INFANT MORTALITY IN BRADFORD AND ENGLAND AND WALES
FOR EACH YEAR, AND IN GROUPS OF FIVE YEARS SINCE 1871.

BRADFORD.		ENGLAND AND WALES.		BRADFORD.		ENGLAND AND WALES.	
	Average		Average		Average		Average
1871	220	158		1896	143	148	
1872	200	150		1897	179	156	
1873	205	149	153	1898	184	160	156
1874	189	151		1899	181	163	
1875	202	158		1900	140	154	
1876	176	146		1901	168	151	
1877	157	136		1902	139	133	
1878	178	152	145	1903	148	132	138
1879	152	135		1904	167	145	
1880	176	153		1905	144	128	
1881	154	130		1906	152	132	
1882	174	141		1907	124	118	
1883	147	137	139	1908	143	120	117
1884	181	147		1909	116	109	
1885	144	138		1910	127	106	
1886	168	149		1911	140	130	
1887	179	145		1912	99	95	
1888	153	136	145	1913	128	109	
1889	181	144					
1890	169	151					
1891	181	149					
1892	155	148					
1893	198	159	151				
1894	144	137					
1895	203	161					

DIAGRAM SHOWING COMPARATIVELY THE INFANT MORTALITY PER
1000 BIRTHS IN THE MUNICIPAL WARDS, 1913.



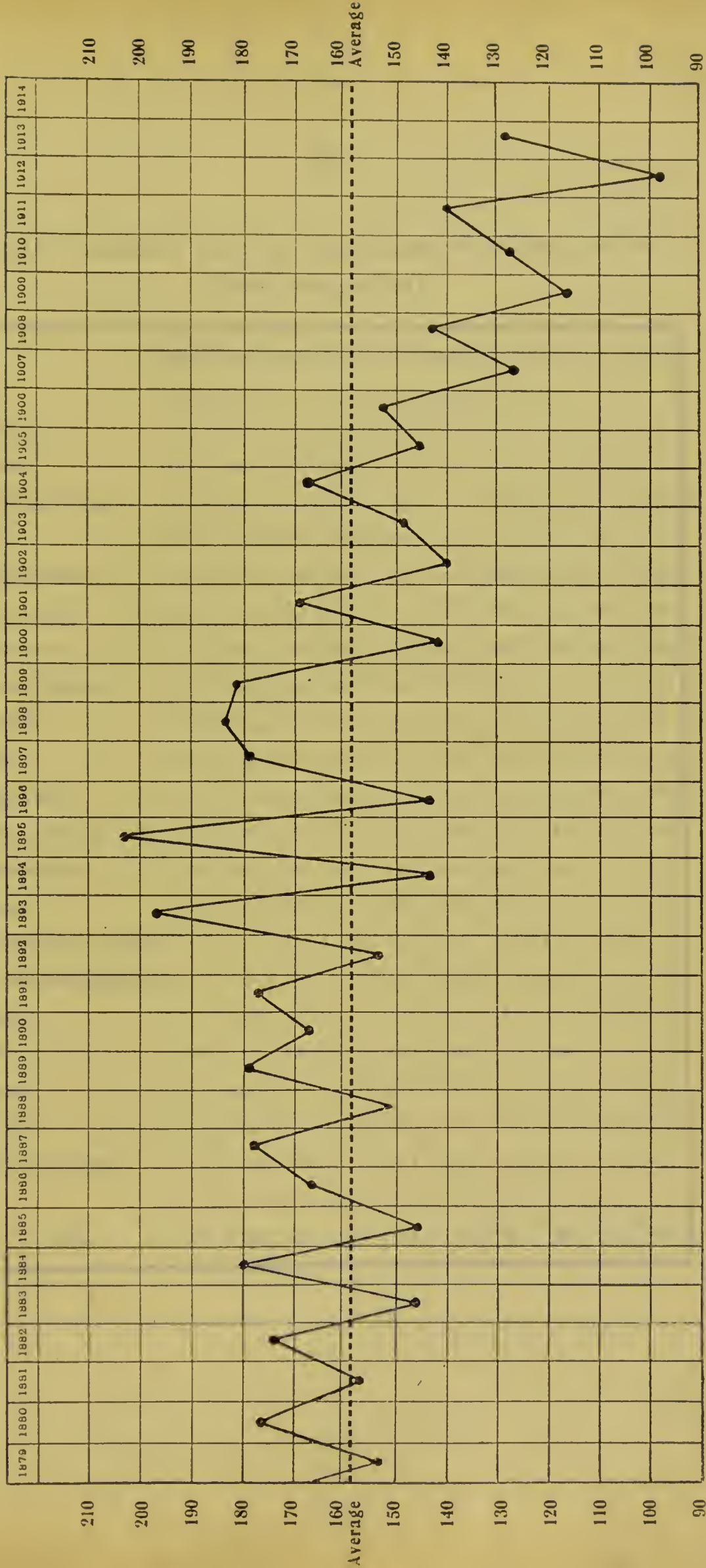
INFANT MORTALITY 1891—1913.

Year	Deaths under One Year of Age per 1000 Births.		
	Total.	Diarrhoeal Diseases.	Total less Diarrhoeal Diseases.
1891	181	14	167
1892	155	15	140
1893	198	12	186
1894	144	10	134
1895	203	52	151
1896	142	18	124
1897	179	23	156
1898	184	19	165
1899	181	22	159
1900	141	16	125
1901	168	35	133
1902	139	8	131
1903	148	19	129
1904	167	29	138
1905	144	21	123
1906	152	34	118
1907	124	11	113
1908	143	30	113
1909	116	6	110
1910	127	20	107
1911	140	32	108
1912	99	4	95
1913	128	27	101

The Ward record of infantile mortality is shewn on the table on page 79, and on the chart on page 76, where it will be seen that this rate was highest in Exchange, North, Listerhills, and South Wards, and the lowest in Idle, Bolton, North Bierley West, and Heaton Wards.

Enquiry into the method of feeding of 116 infants under one year who died from diarrhœa in 1913, showed that at the time of birth ninety-two of the infants were breast fed and twenty-four mixed or hand fed, but that shortly after birth many of the infants were taken off the breast so that at the end of the first month of life only sixty were breast fed and at the time when the fatal illness began only twelve were breast fed. If these figures be compared with the general results of enquiry as to the feeding of infants on page 68, the enormous advantage of breast feeding will be appreciated.

INFANT MORTALITY PER 1000 BIRTHS, 1879—1913.



Average for 35 years --157.

DEATHS FROM DIARRHŒA, 1913.
RESULTS SHOWING THE FEEDING OF THE INFANTS.

Age at death in months	Manner of Feeding									Total
	At birth			Aged 1 month			At death			
	Breast	Mixed	Hand	Breast	Mixed	Hand	Breast	Mixed	Hand	
3	17	—	9	13	3	10	4	4	18	26
4	21	—	3	10	1	13	5	1	18	24
5	16	—	1	13	1	3	—	6	11	17
6	6	—	1	1	3	3	—	1	6	7
7	10	1	2	8	1	4	1	2	10	13
8	7	2	1	3	2	5	1	1	8	10
9	7	—	1	5	1	2	1	—	7	8
10	4	1	—	4	—	1	—	1	4	5
11	4	2	—	3	2	1	—	4	2	6
12	—	—	—	—	—	—	—	—	—	—
Total	92	6	18	60	14	42	12	20	84	116

V.—HOSPITALS.

In the table on page 22, of this report will be found a list of the various hospitals admitting cases from Bradford. In this part only municipal hospitals will be dealt with.

The Council possess at present two hospitals, Leeds Road Hospital and Bierley Hall Hospital, and have a right to admit patients suffering from infectious disease into three hospitals owned by the joint boards of Calverley, North Bierley, and Thornton.

The following summary shows the number and character of the cases admitted to these hospitals in 1913:—

	Leeds Road	North Bierley	Calv'ley	Thr'nton	Bierley Hall	Total
Scarlet Fever	335	33	25	16	—	409
Diphtheria	294	10	1	1	—	306
Typhoid Fever	45	5	—	2	—	52
Erysipelas	5	—	—	—	—	5
Zymotic Enteritis	139	—	—	—	—	139
Pulmonary Tuberculosis	—	—	—	—	177	177
	818	48	26	19	177	1088

(A) CITY HOSPITAL, LEEDS ROAD.

Dr. Kitchin the Medical Superintendent has prepared the following report with respect to the work done there :—

GENERAL ABSTRACT.

Remaining in Hospital, 31st December, 1912	...	...	...	75
Admitted during the year, 1913	...	...	..	683
			TOTAL	<u>758</u>
Discharged, relieved, or cured	...	...	...	627
Died	...	...	...	53
Remaining in Hospital, 31st December, 1913	...	...	...	<u>78</u>
			TOTAL	<u><u>758</u></u>

SCARLET FEVER.

AGE.	MALES.		FEMALES.		TOTALS.		Death Rate per Cent.
	No. Admitted.	No. Died.	No. Admitted.	No. Died.	No. Admitted.	No. Died.	
Under 1	...	...	1	...	1	...	...
1—2	2	...	...	...	2	...	...
2—3	10	...	6	...	16	...	...
3—4	17	2	11	...	28	2	7.1
4—5	16	...	5	1	21	1	4.7
Total under 5	45	2	23	1	68	3	4.4
5—10	65	...	71	3	136	3	2.2
10—15	37	...	32	...	69	...	..
15—20	17	...	15	...	32	...	...
20—25	2	...	11	...	13	...	...
25—30	1	..	1	...	2	...	...
30—35	...	...	2	...	2	...	...
35—40	1	...	...	...	1	...	...
40—45	...	...	1	...	1	...	...
TOTAL ...	168	2	156	4	324	6	1.8

ENTERIC FEVER.

AGE.	MALES.		FEMALES.		TOTALS.		
	No. Admitted.	No. Died.	No. Admitted.	No. Died.	No. Admitted.	No. Died.	Death- Rate Per cent.
Under 5	...	...	2	...	2	...	...
5—10	2	...	...	...	2	...	...
10—15	1	...	3	1	4	1	25
15—20	5	...	...	...	5	...	...
20—25	3	...	2	...	5	...	...
25—30	6	3	3	...	9	3	33·3
30—35	4	...	2	...	6	...	...
35—40	3	1	1	...	4	1	25
40—45	1	...	1	...	2	...	...
45—50	...	...	2	...	2	...	...
50—55	2	1	...	...	2	1	50
TOTAL ...	27	5	16	1	43	6	13·9

DIPHTHERIA.

AGE.	MALES.		FEMALES.		TOTALS.		
	No Admitted.	No. Died.	No. Admitted.	No. Died.	No. Admitted.	No. Died.	Death- Rate. Per cent.
Under 1	4	3	...	...	4	3	...
1—2	4	1	6	1	10	2	20·0
2—3	8	1	4	1	12	2	16·6
3—4	5	1	8	3	13	4	30·7
4—5	15	1	14	2	29	3	10·3
Total under 5	36	7	32	7	68	14	20·5
5—10	59	8	68	9	127	17	13·3
10—15	25	2	23	...	48	2	4·1
15—20	5	...	14	1	19	1	5·2
20—25	5	...	8	...	13	...	...
25—30	2	...	5	...	7	...	...
30—35	2	...	4	...	6	...	...
35—40	...	...	2	...	2	...	...
40—45	...	...	...	...	...	...	...
45—50	...	...	1	...	1	...	...
TOTAL ...	134	17	157	17	291	34	11·6

SHOWING NUMBER OF CASES ADMITTED DURING EACH MONTH
OF 1913.

1913.	Scarlet Fever.			Enteric Fever.			Diphtheria.			Other Diseases.			Total Admissions.		
Month.	M.	F.	Total	M.	F.	Total	M.	F.	Total	M.	F.	Total	M.	F.	Total.
January ...	21	24	45	3	...	3	9	14	23	2	...	2	35	38	73
February ...	16	17	33	...	1	1	11	17	28	...	...	...	27	35	62
March ...	19	7	26	2	...	2	12	7	19	1	...	1	34	14	48
April ...	15	9	24	...	1	1	7	13	20	1	...	1	23	23	46
May ...	18	12	30	2	4	6	13	17	30	1	1	2	34	34	68
June ...	10	14	24	3	...	3	7	13	20	...	1	1	20	28	48
July ...	12	19	31	1	...	1	15	18	33	2	...	2	30	37	67
August ...	6	15	21	1	...	1	7	14	21	2	2	4	16	31	47
September	6	11	17	1	1	2	18	11	29	1	3	4	26	26	52
October ...	14	9	23	4	1	5	10	13	23	...	1	1	28	24	52
November	20	12	32	9	5	14	11	11	22	3	...	3	43	28	71
December	11	7	18	1	3	4	14	9	23	2	2	4	28	21	49
TOTAL ...	168	156	324	27	16	43	134	157	291	15	10	25	344	339	683

OTHER DISEASES.

Erysipelas	4
Measles	5
Whooping Cough	1
Tonsilitis	7
Pneumonia	2
Meningitis	1
Pulmonary Tuberculosis	1
Tabes Mesenterica	1
Bulbar Paralysis	1
Carbuncle	1
Gangrene of Fauces	1
<hr/>	
TOTAL	25

Of these patients seven died—one from meningitis, one from whooping cough, one from pulmonary tuberculosis, one from tabes mesenterica, one from bulbar paralysis, one from carbuncle, and one from gangrene of fauces.

SUMMARY.

YEAR.	SMALL-POX.			ENTERIC FEVER.			SCARLET FEVER.			DIPHTHERIA.			OTHER DISEASES.			TOTALS.			From 1878 to 1913.	
	Cases.	Deaths.	Death-rate per 100.	Cases.	Deaths.	Death-rate per 100.	Cases.	Deaths.	Death-rate per 100.	Cases.	Deaths.	Death-rate per 100.	Cases.	Deaths.	Death-rate per 100.	Cases.	Deaths.	Death-rate per 100.	Aggregate No. of days spent in Hospital.	Average No. of days for each Patient
1878	5	1	20.0	55	13	23.6	148	17	11.5	...	...	...	27	3	11.1	237	34	14.3	9,263	39
1879	8	...	...	24	3	12.5	159	14	8.8	...	...	...	23	4	17.39	214	21	9.8	8,414	39
1880	2	1	50.0	60	8	13.3	248	38	15.3	...	...	...	54	7	12.9	364	54	14.8	13,192	36½
1881	21	2	9.5	61	7	11.5	317	42	13.2	...	...	...	27	...	...	426	51	11.97	16,073	37½
1882	26	3	8.8	88	17	19.3	213	31	14.5	...	...	...	39	5	12.8	366	56	15.32	14,766	40
1883	5	...	...	119	17	14.2	233	17	7.2	...	...	...	23	2	8.6	375	36	9.6	15,949	42½
1884	3	...	...	93	17	18.2	237	11	4.6	...	...	...	29	4	13.7	362	32	8.8	14,215	39½
1885	28	2	7.14	89	6	6.74	456	19	4.16	...	...	...	23	8	34.7	596	35	5.89	21,391	36
1886	4	...	...	83	8	9.63	625	29	4.64	...	...	...	14	2	14.3	726	39	5.37	29,305	40½
1887	3	...	...	79	7	8.86	830	21	2.27	...	...	...	9	5	55.5	921	33	3.58	38,609	42½
1888	16	2	12.5	57	6	10.53	283	12	4.24	...	...	...	11	1	9.9	367	21	5.72	16,479	46
1889	9	1	11.11	90	26	28.89	355	40	11.27	...	...	...	36	6	16.67	490	73	14.90	21,315	43½
1890	...	...	...	59	11	18.64	380	22	5.78	...	...	...	43	12	27.90	484	45	9.30	19,940	41½
1891	...	...	...	76	15	19.6	780	83	10.6	...	...	...	39	10	25.6	897	108	12.04	39,838	44
1892	25	4	16.6	41	11	26.8	587	27	4.6	...	...	...	32	7	21.8	685	49	7.2	29,191	42½
1893	935	100	10.6	11	4	36.3	228	17	7.8	...	...	...	12	1	8.3	186	122	10.2	34,203	28.8

(B) THE CITY HOSPITAL.—BIERLEY HALL.

The Table shows the number of cases of Small-pox and other diseases isolated and treated at Bierley Hall:—

	1911	1912	1913	Total No. of days in Hospital, 1913	Average No. of days in Hospital
Small-pox ... ..	...	2	...	...	...
Convalescent Scarlatina ...	133	56	...	...	...
Phthisis ... ..	...	76	177	15365	93
	133	134	177	15365	93

(C) MAINTENANCE, &c.

Cost of Maintenance and Establishment Charges for the Year ended 31st March, 1914.

MAINTENANCE.

	Leeds Road £ s. d.	Bierley Hall £ s. d.
Cost of articles (food and drink), including stimulants and aerated waters	1791 12 1	1524 10 3
Cost of stimulants and aerated waters only	45 0 10	2 13 11
Cost per head of household and patients (all ages) per day, including stimulants and aerated waters ...	9·7d.	1s. 4d.
Cost per head of household and patients (all ages) per day of stimulants and aerated waters only	0·22d.	0·03d.

	Leeds Road.	Bierley Hall
Number of patients under 12 years of age ...	609	20
Number of patients over 12 years of age ...	209	157
Total number of patients	818	177

For the year ended March 31st, 1914, the cost of maintenance of patients admitted from Bradford to the conjoint Hospitals is as follows:—

	Half-year ended 31st March, 1914.				Half-year ended 30th Sept., 1913.			
	£	s.	d.		£	s.	d.	
North Bierley Joint Hospital...	0	19	8½	...	1	3	0½	per week.
Calverley Joint Hospital ...	0	17	6	...	0	15	4	,,
Thornton Joint Hospital ...	0	18	7½	...	0	10	1	,,

The following sums were paid during the year under the head of "Establishment Charges":—

North Bierley Joint Hospital ...	...	...	...	...	£877	14	6
Calverley Joint Hospital ...	...	...	...	...	562	4	5
Thornton Joint Hospital ...	...	...	...	...	415	16	0

NUMBER OF PATIENTS ADMITTED.

North Bierley Joint Hospital	{	Number of patients under 12 years ...	35
		Number of patients over 12 years ...	13
		Total number of patients ...	48

Calverley Joint Hospital ...	{	Number of patients under 12 years ...	19
		Number of patients over 12 years ...	7
		Total number of patients ...	26

Thornton Joint Hospital ...	{	Number of patients under 12 years ...	12
		Number of patients over 12 years ...	7
		Total number of patients ..	19

VI.—BACTERIOLOGICAL LABORATORY.

The total number of bacteriological examinations conducted for the local authority in 1913 was 3,382. Of these 1,679 were carried out at the Bacteriological Laboratory, 651 by the Veterinary Inspector at the Town Hall, 854 at the School Clinic, 150 at the Tuberculosis Dispensary, and forty-eight by the Leeds School of Medicine.

The following table shows the conditions for which these examinations were made :—

BACTERIOLOGICAL EXAMINATIONS, 1913.

Condition	Bacteriological Laboratory	Elswhere	Total
Enteric Fever	124	—	124
Anthrax	24	—	24
Diphtheria	895	637	1532
Tuberculosis :			
Sputum	495	150	645
Milk	88	438	526
Urine	9	—	9
Milk (other Organisms) ..	25	261	286
Gonococci	17	—	17
Ringworm —	—	217	217
Other Examinations ..	2	—	2
Total ..	1679	1703	3382

VII.—HOUSING.

The estimated number of inhabited houses in Bradford at the end of 1913 was 72,008. The average number of persons per inhabited house was, at the census of 1911, 4·08, as against 4·36 at the census of 1901.

CLASSIFICATION OF BUILDINGS FROM CENSUS RETURN, 1911.

	1901 Total	Total buildings as dwellings	Ordinary dwelling houses	Blocks of Flats	Shops	Hotels, Inns, and Public Houses	Offices, Warehouses, Work- shops, and Factories.	Institutions	Others	Vessels, Sheds, Vagrants, etc.	Separate Flats included in "Blocks"
Number inhabited..	64147	70781	66826	16	3218	535	47	76	66	—	166
Separate Occupiers	64616	71481	67306	166	3241	537	47	79	75	29	166
Population	279767	288458	267774	440	12760	2784	200	4044	337	119	440
Uninhabited	3369	3568	3270	—	284	4	3	—	7	—	2
Being built ..	610	122	117	—	4	—	1	—	—	—	—

HOUSES IN BRADFORD IN THE OCCUPATION OF PRIVATE FAMILIES AT THE CENSUS OF 1911.

No. of Rooms per Tenement	No. of Children under 10 years of age	Number of Persons in Private Families (or Tenements)															Total No. of Private Families (or Tenements)	Population
		Number of Private Families (or Tenements)																
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15 and upwards		
1	0	643	598	61	5	1	—	—	—	—	—	—	—	—	—	—	1308	2047
	1	—	25	98	10	3	2	—	—	—	—	—	—	—	—	—	138	411
	2	—	—	6	27	4	1	—	—	—	—	—	—	—	—	—	38	152
	3	—	—	—	1	4	1	—	—	—	—	—	—	—	—	—	6	30
	4	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	1	6
	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		643	623	165	43	12	5	—	—	—	—	—	—	—	—	—	1491	2646
2	0	1232	3040	1106	477	123	37	8	—	1	—	—	—	—	—	—	6024	13440
	1	—	58	1200	366	179	70	25	6	2	1	—	—	—	—	—	1907	6746
	2	—	—	27	673	207	100	36	10	2	1	—	—	—	—	—	1056	4768
	3	—	—	—	9	283	94	62	17	7	—	—	—	—	—	—	472	2648
	4	—	—	—	—	5	70	37	28	11	5	—	—	—	—	—	156	1077
	5	—	—	—	—	—	2	17	10	3	1	—	—	—	—	—	33	248
	6	—	—	—	—	—	—	—	3	*2	—	—	—	—	—	—	5	42
		1232	3098	2333	1525	797	373	185	74	28	8	—	—	—	—	9653	28969	
3	0	738	4379	2922	1748	811	332	107	31	10	3	1	—	—	—	—	11082	32429
	1	—	45	1965	1062	678	336	153	56	20	6	1	—	—	—	—	4322	17409
	2	—	—	30	1190	587	359	190	90	32	13	5	—	—	—	—	2496	12462
	3	—	—	—	15	503	286	208	106	53	23	4	2	—	—	—	1200	7370
	4	—	—	—	—	3	156	124	87	54	25	4	3	1	—	—	457	3344
	5	—	—	—	—	—	—	51	31	15	14	5	1	2	—	—	119	973
	6	—	—	—	—	—	—	—	1	4	3	3	2	—	—	—	13	131
	7	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	1	11
		738	4424	4917	4015	2582	1469	833	402	188	87	24	8	3	—	19690	74129	

+ +

BUILDINGS NOT USED AS DWELLINGS.

Places of Worship	Government and Municipal Buildings	Shops	Offices	Warehouses, Workshops, and Factories.	Theatres and other places of amusement
264	70	2585	208	2013	11

The houses in Bradford in the occupation of private families at the census of 1911 is given in the Table on pages 94 and 95. It will there be noticed that the total population in private families at the time was 283,321, living in 71,272 private families. The number of houses overcrowded according to the standard of the census with more than two persons per room was 3,749, with a population of 26,367, of whom 8,758 were under ten years of age, living in them. The percentage of the population living in overcrowded houses was therefore 9·3.

The number of new houses built during the past ten years in each Ward and certified as fit for human habitation in accordance with the Bradford Waterworks and Improvement Act, 1871, is shown in the Table on page 97. It will be noticed that during the past eight years there has been a serious diminution in the number of new houses being built.

NEW BUILDINGS.

Table A shows that 349 new houses have been built during the year and certified as fit for habitation in accordance with the Bradford Waterworks and Improvement Act, 1875.

Showing number of New Buildings certified as fit for habitation in each of the Wards, and in the whole City, during the years 1904-1913.

WARDS.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.
Allerton	35	41	14	43	35	29	62	40	21	10
Bolton	1	33	5	14	7	32	55	15	10	13
Bradford Moor...	222	190	117	130	103	84	50	31	81	60
East	37	30	7	21	..	21	1	14	10	...
East Bowling ...	150	50	14	57	38	10	3	12	39	6
Eccleshill	104	53	59	33	33	17	46	23	25	31
Exchange ... ..	...	...	...	...	...	...	...	...	...	...
Great Horton ...	224	110	48	48	45	30	42	37	32	58
Heaton	104	77	102	88	62	29	23	11	34	38
Idle	41	40	19	9	12	6	13	21	10	32
Listerhills	32	2	...	5	.	...	...	...	...	...
Little Horton ...	161	63	83	15	22	42	16	4	4	7
Manningham	14	52	13	7	...	52	88	68	42	24
North	8	23	21	8	9	18	3	20	6	2
North Bierley East	65	71	21	41	19	17	4	8	8	...
North Bierley West	8	7	1	6	...	5	44	29	20	21
South	58	8	28	23	...	15	...	...	1	1
Thornton	43	3	3	...	1	...	1	3	...	1
Tong	21	47	19	9	6	17	26	35	15	20
West	2	...	...	...	...	1	114	...	2	...
West Bowling ...	128	157	81	80	94	51	35	25	33	25
CITY TOTAL ...	1458	1057	655	637	486	476	626	396	393	349

(A) MORTALITY AND HOUSING.

The housing conditions of all deaths during the year were investigated except in sixty-five cases when the deaths occurred in Public Institutions, &c., and the usual residence of the person could not be found. The results of the enquiry are shown on the following table when it will be noted that the death rate in one and two-roomed houses was about 25 per thousand, while the death rate in three-roomed houses was about 20. On the other hand the death rate in four-roomed houses was 12·4, and that in houses of more than four rooms 8·6 per thousand. The figures must of course be used with some reservation, as the rates are not corrected for difference of age and sex distribution, but the contrast is so striking that any correction for such differences of age and sex distribution would probably have little effect upon the general results.

DEATHS AND DEATH RATES ACCORDING TO SIZE OF HOUSE.

	Number of Rooms in House				
	1	2	3	4	Over 4
Number of Deaths ..	64	736	1482	777	983
Mortality rate per 1000	24·2	25·4	19·9	12·4	8·6

In endeavouring to interpret results such as these the whole onus of the high mortality rates in the smaller houses must not be placed upon the size of the house alone. The smallness of a very small house is an index in a large majority of cases of the lowness of the standard of living conditions, and the effect of such attendant circumstances in raising the death rate must be remembered. When the size of the house alone brings about unhealthy conditions it does so chiefly from the overcrowding which exists in it, and small houses are much more

apt to be overcrowded than large ones. Thus at the Census of 1911 the percentages in Bradford of overcrowded houses in one, two, three, and four-roomed houses were respectively 15.1, 15.2, 7.8, and 2.7, while in the houses of more than four rooms only 0.4 per cent were overcrowded. From these figures the very high degree of overcrowding in the one and two-roomed houses will be appreciated. The relationship of the average number of occupants in houses where deaths occurred with that in all the houses of the same class in the City generally is seen in the following table where it will be noted that the average was higher in each case in the houses where deaths occurred.

DEATHS AND PERSONS PER OCCUPIED HOUSE.

Size of House	Houses in which deaths occurred			Total Houses in City	
	No. of deaths	Total No. of occupants at time of death, including deceased person	Average No. of occupants per house	Number	Average No. of occupants
1 room	64	155	2.41	1491	1.78
2 rooms	736	2704	3.67	9653	3.00
3 rooms	1482	6752	4.62	19690	3.77
4 rooms	777	3851	4.96	15170	4.14
Over 4 rooms ..	983	4920	5.00	25168	4.50

The Health Committee last year obtained further powers in the Bradford Corporation Act, 1913, to control overcrowding, but at the present time considerable practical difficulty is experienced in putting these powers into operation on account of the scarcity of available housing accommodation.

(B) INSPECTION OF DWELLING HOUSES.

During the year 1913 a considerable amount of work was done under the Housing, Town Planning, &c., Act, 1909, and the Regulations as to Inspections and Records issued by the Local Government Board. The following summary shows the number of houses dealt with under the Act :—

Number of dwelling-houses inspected under and for the purpose of Section 17 of the Housing, Town Planning, &c., Act, 1909	3082
---	----	----	----	----	----	----	----	------

Number of Dwelling-houses which on inspection were considered to be in a state so dangerous or injurious to health as to be unfit for human habitation	135
--	----	----	-----

Number of representations made to the Local Authority with a view to the making of Closing Orders..	..	135
---	----	-----

Number of Closing Orders actually made :—

Housing, Town Planning, &c., Act	..	..	..	5
Local Act	..	..	..	130

Number of dwelling-houses the defects in which were remedied without the making of Closing Orders	..	1172
---	----	------

Number of dwelling-houses which after the making of Closing Orders were put into a fit state for human habitation	44
---	----	----	----	----	----	----	----	----

General character of defects found to exist :—General dilapidations and want of repairs.

Number of dwelling-houses in which repairs are on hand..	215
--	-----

The following are the houses represented as unfit for human habitation with respect to which Closing Orders were made under the Housing, Town Planning, &c., Act, 1909.

BECK STREET—8, 10.

CUTLER HEIGHTS LANE—159, 161, 163.

The following houses were dealt with under the Bradford Gas and Improvement Act, 1871, as houses unfit for habitation and closed by order of the Council :—

ABBAY STREET—12, 14.

ABRAM GATE—50.

ACRE STREET—8, 10.

ADELAIDE STREET—49.

ARTHUR STREET—16.

BACK EBENEZER STREET—17, 19.

BACK HALL STREET—68A.

BACK REGENT STREET—14, 16, 17, 18, 19.

BANNER STREET—9, 11, 11A, 15.

BOLTON ROAD—32, 34, 36, 38.

CROSS FREDERICK STREET—7.

DIAMOND STREET—32, 34.

DIXON STREET—1, 2, 3, 4, 5, 20.

DUNCAN STREET—48, 51, 53, 55, 59, 63, 64A, 65, 67, 71, 79, 80,
82, 84, 85, 87, 91.

EASTBROOK LANE—2, 23, 25, 45, 47, 59, 65, 65A.

EBENEZER STREET—4, 8, 10.

FREDERICK STREET—25, 27, 29, 31, 33, 35, 39, 43, 45.

GEORGE STREET—47, 82, 88, 90, 92, 94, 96, 100, 102, 112, 118,
120, 124, 132.

GREAT CROSS STREET—12, 14, 16, 53, 55, 57, 59.

JER LANE—5.

KING STREET—29, 33, 35, 41.

LOOM STREET—12, 19, 21, 23.

LUMBY STREET—6.

MOUNT STREET—156.

MYRTLE STREET—118.

NATHAN STREET—1, 3, 5, 17.

NORTHBROOK STREET—37, 39.

REGENT STREET—29, 31, 33.

ROOLEY LANE—152, 154, 160, 162, 164, 166.

SHAW STREET—2, 4, 6, 8, 10, 12.

UPPER STURGES STREET—22.

WAPPING ROAD—47, 49, 55, 57, 65, 67.

The two Inspectors appointed under the Housing Regulations made 3,082 inspections with records of houses, the early inspection of which was, in the opinion of the Medical Officer of Health, desirable.

VIII. OCCUPATIONS IN BRADFORD.

The chief occupations of the inhabitants of Bradford are shown in the following table compiled from the census returns of 1911.

OCCUPATIONS OF PERSONS OVER 10 YEARS OF AGE.

Occupation	Males	Females	Total
Professional	2603	2180	4783
Commercial	6563	1023	7586
Domestic	1196	7487	8683
Conveyance	9940	232	10172
Building, &c.	6837	—	6837
Metals, &c.	9239	299	9538
Wood, &c.	2378	215	2593
Paper Printing, &c. ..	1934	1343	3277
Textile Manufacture, &c.	33786	36457	70243
Dress.. ..	2958	4767	7725
Food, &c.	6728	3713	10441
Others	13554	1317	14871
Retired, none specified ..	11830	72064	83894
Total ..	109546	131097	240643

EXPLANATORY NOTES:—

"Professional" includes those whose main occupations are religious, legal, medical, literary, scientific, educational, and the like.

"Commercial" includes merchants, agents, accountants, insurance agents, travellers, business clerks, and the like.

"Conveyance" includes railwaymen, tramwaymen, coachmen, motor drivers, carters, porters, messengers, and others.

"Metals, etc." include ironfounders, fitters, blacksmiths, tool makers, mechanics, and allied industries.

"Wood, etc." includes cabinet makers and upholsterers.

"Food" includes tobacconists, spirit merchants, restaurant keepers, boarding house keepers and the like.

Further details of those engaged in Textile Manufacture, &c., the main industry of the City, is given in the following table:—

MANUFACTURE OF CERTAIN TEXTILE FABRICS.

Process			Males	Females	Total
WOOL AND WORSTED	{	Sorting	1936	—	1936
		Carding and Combing ..	4570	2568	7138
		Spinning	5497	13078	18575
		Weaving	3261	13127	16388
		Other processes	3496	531	4027
		Undefined	655	317	972
SILK ..	{	Spinning	269	1167	1436
		Weaving	275	1167	1442
		Other processes	492	206	698
		Undefined	113	84	197
COTTON ..	{	Card and Blowing Room	41	76	117
		Spinning	214	504	718
		Winding, Warping, &c.	441	345	786
		Weaving	53	549	602
		Other Processes	31	20	51
		Undefined	31	20	51
		Bleaching, Printing, Dyeing, &c.	6288	473	6761
		Dealers, including Drapers	5090	882	5972
		Total	32753	35114	67867

(A). OCCUPATIONS OF MARRIED WOMEN.

Of the 59,033 women engaged in occupations outside of their homes in Bradford, 11,242, or 19.0 per cent., were married. The chief occupations of these married women were in 998 cases domestic in character, in 7509 cases in the manufacture of textile fabrics, in 662 cases in dressmaking, shirt making, &c., and in 1324 in occupations concerned with food, &c.

Of the total married women in the City (57,765) therefore, 11,242, or 19.6 per cent., were engaged in occupation, and 7509, or 13.3 per cent., were engaged in work in the mills.

(B). OCCUPATIONS OF CHILDREN.

The total number of children under sixteen years engaged in some occupation in Bradford was at the time of the last census, 13,779.

CHILDREN EMPLOYED.

Age	Males	Females	Total
Under 13 years ..	1210	1112	2322
14 years	1355	1341	2696
15 years	2113	2126	4239
16 years	2182	2340	4522
Total ..	6860	6919	13779

The great proportion of these children were employed in the wool and worsted trade, chiefly in the spinning processes.

CHILDREN EMPLOYED IN WOOL AND SILK TRADE.

Process		Age								Total	
		Under 13		Under 14		Under 15		Under 16			
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
WOOL AND WORSTED	Sorting ..	—	—	5	—	13	—	44	—	62	—
	Carding and Combing ..	1	3	11	8	32	24	66	57	110	92
	Spinning ..	921	1051	877	1156	524	1007	358	942	2680	4156
	Weaving ..	58	33	101	233	122	421	82	504	363	1191
	Other Processes ..	9	2	45	18	69	16	92	10	215	46
	Undefined ..	52	20	51	18	58	23	45	14	206	75
SILK	Spinning ..	24	41	33	70	30	73	20	52	107	236
	Weaving ..	1	5	2	34	3	35	4	47	10	121
	Other Processes ..	1	9	7	14	7	13	15	9	30	45
	Undefined ..	2	4	4	9	10	4	3	6	19	23
Total ..		1069	1168	1436	1560	868	1616	729	1641	3802	5985

Employment of Children Act, 1903. Special attention has again been paid by the Inspectors to the enforcement of the Bye-laws made under this Act for the regulation of the hours of children employed in the City. A large number of visits have been made to shops and other places where children are employed in the early morning, during the day, and at night, in all parts of the City. The provisions of the Bye-laws as they relate to the employment of children in various occupations before and after school hours, and as half-timers, have been carefully explained to all persons found to be employing children. The number of offences discovered during the year against the Bye-laws was 346, and in addition there were 20 offences against the general provisions of

the Act itself, making a total of 366, as compared with 178 in the previous year, 315 in 1911, 439 in 1910, 277 in 1909, 375 in 1908, and 724 in 1907. In thirty-two cases where the offence was repeated after warnings had been given, the employers were prosecuted and the remaining employers served with warning notices and supplied with printed copies of the Bye-laws.

The following is a summary of the offences committed :—

Children employed after 9 p.m. on Saturdays	..	16
Children employed after 8 p.m. on weekdays	..	37
Children employed before and after school for more than 20 hours in a week	.. .. .	24
Children employed as half-timers for more than 30 hours in a week	.. .. .	9
Children employed under eleven years of age	..	36
Children employed the whole of the day on Saturdays		92
Children employed both morning and evening	..	33
Children employed on Sundays	.. .. .	24
Children employed during school meal hours	..	22
Children employed after 8 a.m. and before 5 p.m. on week-days	.. .. .	40
Children employed after half-time in factories	..	17
Children employed so as to be liable to cause injury to health	.. .. .	3
Other offences	.. .. .	13
		—
Total		366

During the year 144 children were licensed by the Magistrates to take part in public entertainments at the various theatres and other

places of amusements. Visits were made in each case to see that the conditions of the license were carried out, and that the children were suitably cared for and educated. All the conditions were found to be satisfactory. Visits were also made to the places of entertainment at times when no licences were in operation, and on two occasions children were found to be taking part without having been licensed by the Magistrates, the employers of the children and the managers of the theatres were cautioned.

The following prosecutions were undertaken under the Employment of Children Act, 1903, and Bye-laws :—

- (a) For employing children after half-time in a factory 3 persons were proceeded against and fined in all 11s. and £1 4s. costs.
- (b) For breaches of the bye-laws 29 persons were proceeded against and fined in all £11 11s. and £11 3s. costs.

IX.—FOOD.

(A) MILK SUPPLY.

So far as can be estimated it would appear that the average quantity of milk consumed in the city daily amounts to about 14,500 gallons, of which about 9,000 gallons is produced within the city boundaries and about 5,500 gallons outside.

Inspection of Dairy Cattle. This is carried out regularly by the veterinary inspector who supplies the following report on his work during the year.

REPORT BY C. PITTS, M.R.C.V.S.

There are at present within the city 400 dairy farms, of which 327

are used as dairy farms, and seventy-three chiefly for rearing or keeping store cattle. All the farms were visited under the provisions of the Tuberculosis Order, 1913.

There are approximately 4,600 dairy cows within the city which contribute to the milk supply. At the beginning of the year 1913 the class of dairy cattle was below the usual standard quality owing no doubt to restrictions from foot and mouth disease, the wet season, and poor quality of fodder. Towards the close of the year the quality improved considerably and excelled all recent years. During the year 2,177 visits were made to farms to inspect dairy cattle and to maintain as far as possible cleanliness of the animal, their udders, and the milk. At this time also the cowsheds, dairies, can-houses, and milk vessels were all inspected, and the milk both before and after filtration examined. The number of inspections of dairy animals made during these visits was 28,680, particular attention being paid to the condition of the animals generally, the udder for tuberculous mastitis, or any other form of disease likely to cause contamination. Samples of milk from all udders exhibiting abnormal conditions were taken and from all animals which had recently calved where blood was likely to be found in the milk. The samples of milk collected during the year numbered 658. These have been examined by the microscope for pus, dirt, and tubercle bacilli, and in cases where doubt existed repeated samples were collected and examined. Many samples of milk which were taken direct from the udder when recently drawn appeared normal to the naked eye, but when allowed to sediment a deposit of pus cells were found at the bottom of the test tubes. In these cases a notice was sent to the owners informing them not to sell the milk containing the pus nor mix it with other milk and sell for human food. After this notice the Inspector of Food and Drugs intercepted the dairyman in his delivery of the milk and purchased samples, which were tested for pus and contaminations, and the result of the test determined further action.

Under the Bradford Corporation Act, 1900, Bradford possessed powers to take samples of the milk sold in the City for biological testing for tuberculosis, but as the interval was so great between the taking of the sample and the receipt of the result, great difficulty was usually found in tracing the source of infection, either inside or outside the city when a sample was reported against. Under the same Act powers were given to ensure isolation of diseased cows, but this did not prevent the owner of such an animal disposing of it after detection. The result was that diseased cows were frequently sold out of the city and despite all

efforts, both inside and outside of the city, were lost sight of. The Tuberculosis Order, 1913, which came into force on the 1st May greatly improved the procedure in dealing with tuberculosis in dairy cattle, and has effectually prevented such proceedings.

During the year four samples of mixed milk from sources beyond the city boundaries were found to contain tubercle bacilli. These are referred to on pages 115 and 116.

Between 1st January and 30th April, forty-four dairy animals were found in the city suffering from tuberculosis, in twelve of which the udder was affected. No less than eight of these twelve were sold to dealers and could not be further traced, while the other four were followed up until their slaughter. The remaining thirty-two animals were suffering from tuberculosis not affecting the udder. These animals were ultimately disposed of as follows :—twenty-six were slaughtered and six were sold to persons outside the city and lost sight of. Thus in the period in 1913 prior to the coming into force of the tuberculosis order, of forty-four animals which would have been dealt with under it, eighteen could not be traced, and probably in some cases continued to be used as dairy cows.

The number of animals reported under the provisions of the Tuberculosis Order from the 1st May to the 31st December, 1913, was fifty-seven, of which twenty-seven were said to be suffering from tuberculosis of the udder, and thirty from tuberculosis with emaciation. In four of these cases the reports were sent on to Inspectors of other local authorities, while the remaining fifty-three cases were dealt with as follows :—twenty-three were slaughtered and the post mortem showed the animal to be suffering from advanced tuberculosis and one quarter compensation paid ; one was slaughtered and the post mortem showed the animal to be suffering from tuberculosis, but not advanced, so three-quarters compensation was paid ; twenty-six were slaughtered by the owners and no compensation paid, while three were not slaughtered as repeated clinical and bacteriological examinations showed that the animals were not suffering from tuberculosis.

Upon many occasions the attention of cowkeepers has had to be called to the dirty state of the dairy cows in their possession, the hind quarters of the animals being encrusted with manure and the teats and udders being fouled. Where such conditions were found a visit has been

made at milking time, and the milk filtered in the presence of the person responsible and the result of such filtration shown to him. When necessary a warning is given that in future due diligence must be taken to prevent the contamination of milk before leaving the farm premises. A conviction was obtained against a dairyman for not exercising due diligence to prevent exposure of milk belonging to him to noxious contamination and uncleanness; the penalty was 14s. and 7s. costs.

SUMMARY.

Number of Dairy Farms in the City	..	..	..	..	327
Number of Store Farms in the City	..	..	..	..	73
Approximate number of dairy animals	..	..	..	..	4600
Number of visits to farms	..	..	..	..	2177
Number of inspections of dairy cows	..	..	..	..	28,660
Number of samples of milk collected and examined	..	..	..	..	658

Number of animals found suffering from Tuberculosis :—

Before May 1st :—

Tuberculosis of the udder	..	..	..	..	12
Tuberculosis with emaciation	..	..	..	..	32

After May 1st :—

Tuberculosis of the udder	..	..	..	..	27
Tuberculosis with emaciation	..	..	..	..	30

Total	101
-------	----	----	----	----	-----

Compensation paid under the provisions of the Tuberculosis

Order, 1913	..	..	..	..	..	£53	5	0
Amount received as salvage	..	..	..	..	..	31	14	8
Net cost of compensation	..	..	..	..	..	£21	10	4
Amount to be refunded by the Board of Agriculture	..	..	..	..	..	10	15	2
Net cost to Local Authority	..	..	..	..	..	£10	15	2

Cowsheds. There were at the end of the year within the city 324 dairy farms, containing 609 cowsheds, which are regularly under inspection for the enforcement of regulations made under the Dairies, Cowsheds, and Milkshops Orders, 1885 and 1886. During the past year 2198 visits have been made to these premises, and 3,570 inspections of cowsheds.

Nineteen notices were served upon cowkeepers requiring them to carry out certain alterations or amendments necessary to put the cowsheds in their occupation in a sanitary condition.

Considerable improvement has been effected in the sanitary condition of these places during the past five years, and the work executed during the past twelve months at various farm premises is given below.

New Cowsheds (constructed under supervision of Surveyor's Department)	..	..	..	..	..	2
Cowsheds Reconstructed	..	..	..	..	..	21
Feeding Gangways Provided	..	..	..	..	..	21
Additional Light Secured	..	..	..	..	..	32
Proper Ventilation Provided	..	..	..	..	..	31
Additional Air Space	..	..	..	..	..	31
Drains Relaid or New Drainage Provided				..	..	34
Paving (repaired or renewed)	..	..	..	..	..	32
New Manure Pits Constructed	..	..	..	..	..	6
Manure Pits (ventilating into Cowsheds) Abolished					..	5
Walls Cemented (to facilitate cleansing)	..	..	..	..	..	30
New Dairies Provided	..	..	..	..	..	9
Cowsheds Abolished	..	..	..	..	..	8

The whole of these improvements, with the exception of new cowsheds, were personally supervised by the Inspector of Cowsheds.

Changes in the occupancy of farm premises are constantly taking place, and during the past twelve months fourteen persons have been registered as cowkeepers. During the past year the occupiers of three farms containing five cowsheds have discontinued keeping dairy cows.

On one occasion the Inspector found poultry in a cowshed ; these were at once removed at the request of the Inspector. Thirty-four cowkeepers having failed to linewash their cowsheds at the time stipulated in the regulations, notices were served upon them drawing their attention to this breach of the Orders, and in each case this had the desired effect. Five notices have been served upon cowkeepers requiring them to remove accumulations of manure from their manure pits, or to take such steps as were necessary to prevent the overflowing of manure tanks.

The water supply at two farms being considered unsatisfactory samples were taken and submitted to the City Analyst, who certified in both cases the water was suitable for domestic purposes.

DETAILED LIST OF IMPROVEMENTS IN COWSHEDS.

	New Cowsheds.	Cowsheds Reconstructed.	Gangways Provided.	Additional Light.	Ventilation Provided.	Air Space.	Drainage.	Paving.	New Manure Pits.	Manure Pit Abolished.	Walls Smoothed.	Dairies Provided.	Cowsheds Abolished.
Aldersley Farm, Allert'n	—	3	2	2	2	2	2	2	—	—	2	—	4
Haycliffe Hill Farm (Bates) ..	—	1	1	1	1	1	1	1	—	—	1	—	—
Bolton Hall Farm ..	—	1	1	3	3	2	3	3	1	1	3	—	—
495 Rooley Lane ..	—	1	1	1	1	1	1	1	—	—	1	—	1
Bank Farm, Eccleshill	—	—	—	2	2	2	2	2	1	1	2	—	—
Hoe Farm, Bolton ..	—	1	1	2	2	2	2	2	1	1	2	—	1
Low Fold Farm, Bolton	—	—	—	1	1	1	1	1	—	—	—	—	—
Low Newell Farm, Rooley Lane ..	1	—	—	—	—	—	—	—	—	—	—	—	—
Throstle Nest Farm, Fagley ..	—	1	1	1	1	1	1	1	1	—	1	—	—
Raikes Farm, Tong ..	—	1	1	1	1	1	1	1	—	—	1	1	—
Manorley Hall Farm, Buttershaw ..	—	1	1	1	1	1	1	1	—	—	1	—	—
Red Hill Farm, Tong	—	1	1	1	1	1	1	1	—	—	1	—	—
Springfield Farm, Lidget Green ..	—	1	1	2	2	2	2	2	—	—	—	—	—
Threapleton Farm, Wyke ..	1	—	—	—	—	—	—	—	1	1	—	—	2
Perseverance Farm, Thornton ..	—	—	—	—	—	—	1	—	—	—	1	—	—
Back Lane Farm, Idle	—	—	—	—	—	—	—	—	—	—	—	1	—
Cow Close Farm, Wyke	—	1	1	1	1	1	1	1	—	—	1	—	—
Northern Head Farm, Wyke ..	—	1	1	1	1	1	1	1	—	—	1	—	—
Reevy Hall Farm, Wibsey ..	—	2	2	2	2	2	2	2	—	—	2	—	—
Haycliffe Hill Farm, (Bacton) ..	—	1	1	1	1	1	1	1	—	—	1	1	—
Beckside Farm, Great Horton ..	—	1	2	2	2	2	2	2	1	1	2	—	—
Travis Farm, Thornton	—	1	1	1	1	1	1	1	—	—	1	—	—
Haycliffe Hill Farm (Hudson) ..	—	1	1	1	1	1	1	1	—	—	1	1	—
Black Carr Farm, Thornton ..	—	1	—	1	1	1	1	1	—	—	1	1	—
School Green Farm, Thornton ..	—	—	—	—	—	—	1	—	—	—	—	—	—
Cutler Heights Lane ..	—	—	—	3	3	3	3	3	—	—	3	—	—
Close Top Farm, Great Horton ..	—	—	1	1	1	1	1	1	—	—	1	—	—
Shay Fold Farm, Thornton ..	—	—	—	—	—	—	—	—	—	—	—	1	—
Watty Hall Farm, Wibsey ..	—	—	—	—	—	—	—	—	—	—	—	1	—
Mayfield Farm, Wyke	—	—	—	—	—	—	—	—	—	—	—	1	—
Low Fold Farm, Wyke	—	—	—	—	—	—	—	—	—	—	—	1	—
Totals ..	2	21	21	32	32	31	34	32	6	5	30	9	8

Milkshops, Dairies, and Purveyors of Milk. There were at the end of the year 420 vendors of milk registered and residing within the City. During the year thirty-nine new milk purveyors were registered.

These registered milk vendors may be classified as follows :—

Cowkeepers and retailers	..	..	..	..	141
Retailers only (in the streets or from their homes)	..				158
Milkshops (including dairies, confectioners, small grocers, restaurants, and other shops)	..			..	121

The number of visits made during the year to these premises was 820, and generally the premises were found in a fairly satisfactory state.

In addition to these 420 vendors residing in Bradford, 13 dairy-men came in from surrounding districts to sell milk, by retail, in the city.

Three milk purveyors were cautioned for selling milk from receptacles not conspicuously inscribed with their name and address. Each of them afterwards complied with the requirements.

The milk supply produced within the city is supplemented from 182 sources outside the boundary. From these sources the milk arrives in Bradford in 105 cases by rail, in 13 by tramways, and in 64 by road. The total amount of milk produced outside the city boundary and consumed within is estimated to be about 5,500 gallons daily.

Bacteriological Examination of Milk. In addition to the examinations of milk carried out by the Veterinary Inspector, forty-eight

samples of milk were obtained and submitted to the Leeds School of Medicine to be tested for tubercle bacilli by inoculation tests ; nine of these were reported to be tuberculous. The following details may be given with respect to the samples proving tuberculous ;—

One sample (No. 168) was from a mixed milk taken in the streets and produced within the city, this source was traced to a tuberculous cow from which sample (No. 172) was taken ; the cow was isolated and was not further used for milk production. One sample (No. 177) was taken under the direction of the veterinary inspector from a case in which he suspected tuberculosis of the udder ; the cow was dealt with under the Tuberculosis Order, 1913. One sample (No. 182) was taken from a mixed milk coming by rail from outside the city. The cowshed was visited and a sample (No. 188) was taken under the directions of the veterinary inspector from a suspected cow and proved to be tuberculous. The circumstances were reported to the Rural Authority of the district. One sample (No. 184) was taken from a mixed milk coming by road from outside the city ; the cowshed was visited and the cows examined, but no suspicious udder was found. Several weeks had elapsed between the taking of the sample and the report, and during that period two cows had been sold to a dealer, but these could not be traced. One sample (No. 201) was from a mixed milk coming by rail from beyond the city boundary. The cowshed was visited by the veterinary inspector, and the cows examined, and a sample (No. 209) taken from a suspected udder, which was reported to be tuberculous. The Local Authority of the district was notified and the animal dealt with under the Tuberculosis Order, 1913. One sample (No. 213) was from a mixed milk coming by rail from beyond the city boundary. The cowshed was visited, and the cows were examined by the veterinary inspector, and a suspected udder was found. A sample taken in the current year proved to be tuberculous.

No bacteriological counts of milk were done during the year.

Chemical Examination of Milk. During the year 468 samples of milk were analysed by the City Analyst and the results are shown in tabular form on the following page. These show that 4.0 per cent. of the samples gave an analysis under 3 per cent. of fat, and 68.2 per cent. over 3.5 per cent. of fat, while 7.1 per cent. of these samples gave an analysis under 8.5 per cent. of non-fatty solids, and 61.8 per cent. over 9 per cent. non-fatty solids. The total number below 3.0 per cent. of fat and 8.5 per cent non-fatty solids was 38, or 8.1 per cent. of the samples.

RESULTS OF MILK ANALYSIS 1913.

Per cent.	Fat																							Total
	Und'r 2'5	2'5	2'6	2'7	2'8	2'9	3'0	3'1	3'2	3'3	3'4	3'5	3'6	3'7	3'8	3'9	4'0	4'1	4'2	4'3	4'4	4'5	4'6 & over	
Under 7'5	2	1	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5
Over 7'5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7'6	—	—	1	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	2
7'7	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	1
7'8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2
7'9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3
8'0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8'1	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	4
8'2	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	3
8'3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2
8'4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11
8'5	—	1	—	—	—	—	—	—	1	—	—	—	2	—	—	—	—	—	—	—	—	—	—	17
8'6	—	—	—	—	—	—	—	—	2	—	—	—	4	—	1	—	1	1	1	1	—	—	—	23
8'7	—	—	—	—	—	—	—	—	—	2	2	—	3	2	2	—	3	3	2	—	—	—	—	23
8'8	—	—	—	—	—	—	—	—	—	1	1	2	2	2	3	—	4	5	1	—	1	1	—	38
8'9	—	—	—	—	—	—	—	—	—	4	2	4	5	4	5	4	5	5	3	2	2	2	—	45
9'0	—	—	—	—	—	—	—	—	—	1	6	3	4	4	2	3	2	6	3	1	2	1	—	50
9'1	—	—	—	—	—	—	—	—	—	6	8	4	4	4	13	1	6	5	6	7	2	—	—	68
9'2	—	—	—	—	—	—	—	—	—	4	2	6	3	12	2	2	—	4	4	1	1	1	—	55
9'3	—	—	—	—	—	—	—	—	—	2	7	1	5	6	5	4	5	3	3	5	—	3	—	51
9'4	—	—	—	—	—	—	—	—	—	4	1	5	2	3	1	3	3	2	1	—	1	1	—	33
9'5	—	—	—	—	—	—	—	—	—	3	—	—	1	2	2	2	1	—	3	2	—	—	—	16
9'6 and over	—	—	—	—	—	—	—	—	—	4	1	1	—	1	2	3	1	1	—	—	—	—	—	16
Total ..	2	2	1	3	4	7	20	19	21	36	34	38	37	47	44	30	28	27	23	13	10	7	15	468

Non-Fatty Solids.

Municipal Milk Depot. The business done at the Milk Dépôt is shown in the following tabular statement:—

	1911-12	1912-13	1913-14
Humanized Milk sold (bottles)	312,351	119,539	5,875
Sterilized Milk sold (pints)	83,890	70,907	14,543
Raw Milk sold, wholesale and retail (galls.) ..	56,394	81,327	101,156
Sterilized Milk supplied to Hospitals (pints)	8,226	22,416	436
Raw Milk do. (galls.)	8,406	9,255	5,225

The Balance Sheet for the year ending March 31st, 1914, is appended.

COMPARATIVE STATEMENT OF REVENUE

EXPENDITURE.	1912-13.		1913-14.		Increase.	Decrease.
	Amount.	Per-centage of Total Income.	Amount.	Per-centage of Total Income.		
	£ s. d.		£ s. d.		£ s. d.	£ s. d.
Salary of Official ...	114 8 4	2'40	120 8 8	1'92	6 0 4	
Wages and Team Labour	520 17 11	10'92	768 7 10	12'29	247 9 11	
Rents, Rates, and Taxes	68 2 8	1'43	85 10 8	1'36	17 8 0	
Milk and Cream ...	3836 19 0	80'44	4287 1 0	68'56	450 2 0	
Sugar ...	6 8 0	'13	2 4 8	'03		4 3 4
Eggs ...	65 19 11	1'39	141 19 9	2'27	75 19 10	
General Repairs ...	191 17 10	4'02	507 2 7	8'11	315 4 9	
Bottles, Teats, Washers, } &c. ...	71 18 11	1'51	55 15 3	'90		16 3 8
Coal, Coke, Gas, Elec- } tricity, and Water	42 13 0	'89	92 3 0	1'47	49 10 0	
Provender, Saddlery } and Farriery ...	150 19 11	3'17	141 5 6	2'26		9 14 5
Insurance ...	2 15 8	'06	2 4 5	'04		0 11 3
Printing, &c., Disburse- } ments and Sundries	126 1 10	2'64	186 5 2	2'98	60 3 4	
					1221 18 2	30 12 8
					30 12 8	
	5199 3 0	109'00	6390 8 6	102'19		
INCREASED EXPENDITURE ...					£ 1191 5 6	

F. OGDEN WHITELEY, F.S.A.A.,

City Treasurer and Accountant.

* NOTE.—In addition to the above, expenditure has been incurred in respect of the New Premises in course of erection in Morley Street, as follows:—

	£ s. d.
Second Instalment ...	2500 0 0
Interest on Suspense Account...	155 0 0
	<u>£2655 0 0</u>

MILK DEPOT.

ACCOUNTS FOR THE YEARS 1912-13 AND 1913-14.

INCOME.	1912-13.		1913-14.		Increase.	Decrease.
	Amount.	Per-centage of Total Expend-iture.	Amount.	Per-centage of Total Expend-iture.		
	£ s. d.		£ s. d.			£ s. d.
Milk—Humanized ...	38 6 6	·74	11 10 3	·17		26 16 3
„ Sterilized ...	416 6 7	8·01	139 2 5	2·18		277 4 2
„ Wholesale ...	2767 14 8	53·24	2681 15 5	41·98		85 19 3
Cream	39 2 4	·75	38 3 0	·60		0 19 4
Eggs	65 17 8	1·27	61 11 0	·96		4 6 8
Honey	0 6 2	·01				0 6 2
Butter			11 4 5	·17	11 4 5	
Bottles, Teats, &c. ...	1 18 5	·01	1 10 0	·02		0 8 5
Free Supply—						
Health Dept.—Milk ...	666 15 11	12·82	569 4 6	8·90		97 11 5
Infants' Con- } do. ...	765 5 3	14·73	2636 6 9	41·26	1871 1 6	
sultations }						
Do. Eggs ...	7 6 6	·14	103 3 10	1·62	95 17 4	
	4769 0 0	91·72	6253 11 7	97·86	1978 3 3	493 11 8
					493 11 8	
					1484 11 7	
Expenditure in excess } of Income	430 3 0		*136 16 11			
	5199 3 0		6390 8 6			
INCREASED INCOME					£ 1484 11 7	

MEM. —	£ s. d.
Deficit, 1912-13	430 3 0
Increased Income, 1913-14	1484 11 7
„ Expenditure, 1913-14	1191 5 6
	<u>293 6 1</u>
	£136 16 11

(B) SALE OF FOOD AND DRUGS ACTS.

The number of samples of Food and Drugs taken under these Acts and submitted to the Public Analyst for analysis by the Food and Drugs Inspector was 839. Of these 769 were certified genuine and seventy as adulterated or doubtful.

In thirty-five cases the vendors were summoned before the Magistrates for adulteration of food and in one for refusal to sell; penalties and costs amounting to £79 6s. were inflicted.

Under special arrangement twenty-nine samples were submitted by traders and others for analysis; of these twenty-eight were certified genuine and one doubtful.

The following table shows the nature of articles submitted for analysis :—

SAMPLES TAKEN.

	Number submitted	Adulterated or Doubtful
Milk	489	51
Cream	21	5
Butter	65	—
Cheese	6	—
Bread and Butter ..	14	—
Margarine	12	—
Lard	47	—
Flour	27	3
Rice	12	—
Pepper ..	10	3
Jam	13	1
Other Articles of Food	49	5
Drugs	74	2
Total ..	839	70

The action taken is set out in the following table and text.

MILK.

Sample No.	Deficiency in Fat, per cent.	Added Water, per cent.	Other Adulteration	Fine			Costs			Remarks
				£	s.	d.	£	s.	d.	
5150	2.0	7.5	—	0	10	0	0	7	0	
5167	—	6.3	—	1	0	0	0	7	0	
5189	—	31.2	—	2	0	0	0	7	0	Separated milk.
5249	7.0	—	—	—	—	—	—	—	—	Dismissed
5282	—	4.7	—	1	0	0	0	7	0	
5400	10.7	10.1	—	5	0	0	—	—	—	Including costs
5405	4.0	6.8	—	5	0	0	—	—	—	Do.
5407	5.3	2.3	—	0	10	0	—	—	—	Do.
5417	5.7	4.0	—	0	10	0	—	—	—	Do.
5483	—	—	10.7 parts per million of dry dirt	2	0	0	0	7	0	
5570	26.0	22.3	—	4	11	0	0	9	0	
5576	—	25.6	—	4	13	0	0	7	0	
5583	7.0	21.5	—	4	13	0	0	7	0	
5590	—	7.7	—	2	0	0	0	7	0	
5609	—	5.0	—	1	0	0	0	7	0	Separated milk.
5790	—	75.0	—	10	0	0	0	14	0	
5908	4.0	6.8	—	—	—	—	—	—	—	Withdrawn
5915	—	13.8	—	2	0	0	0	7	0	
5918	—	10.3	—	2	0	0	0	7	0	
5951	—	8.7	—	5	0	0	1	15	0	

NOTES:—Samples 5150, 5167, and 5282 were from the same cowkeeper. The cowshed was visited and a sample taken from the mixed milk of a herd of fourteen cows six days after the last sample was taken. The result was: Total solids, 13.40; non-fatty solids, 9.08, and milk fat, 4.32. Samples 5400, 5405, 5407, and 5417 were from a cowkeeper in the city supplying a milk purveyor in the city, and were all taken at the place of delivery. The cowshed was visited after-

wards and a sample of mixed milk taken from a herd of six cows. The result was: Total solids, 13.0; non-fatty solids, 9.14; milk fat, 3.86. The man was fined £1 and 11s. costs in 1910 for an 8 per cent. deficiency in milk fat. Samples 5570, 5576, and 5583 were from the same cowkeeper and were taken at the place of delivery to the milk purveyor. The milk purveyor from whom sample 5590 was obtained was also fined £1 and 7s. costs for refusing to sell from another can of milk in his cart.

In the following cases the sample was either taken unofficially or a caution was given by the Committee, viz.: samples showing 7.0 and 3.7 per cent. deficiency in fat, samples showing 3.0, 1.4, 3.5, 1.0, 4.2, 1.1, 0.47, 0.9, 1.18, 4.0, and 0.43 per cent. added water; sample showing 4.7 per cent. deficiency in fat and 0.4 per cent. added water, sample showing 2 per cent. deficiency in fat and 0.9 per cent. added water, sample showing 14 per cent. deficiency in fat and 1.1 per cent. added water, and sample showing $2\frac{1}{2}$ pints per million of dry dirt.

The cases where preservative was found in milk are dealt with on pages 000.

CREAM. Twenty-one samples were taken, and five samples reported against under Milk and Cream Regulations, see pages 127—129.

FLOUR. Twenty-seven samples were taken, and three samples reported against as follows:—One sample gave off an odour of carbolic acid which was probably caused by being stored in close proximity to articles containing carbolic acid; the vendor was cautioned. Two samples were labelled "Health Flours" but were really cake flours containing 85 per cent. of potato farina with 15 per cent of wheat flour. An arrangement was made with the proprietors to discontinue the use of the word "Health."

PEPPER. Ten samples were taken, and three samples reported against as follows:—One unofficial sample contained 9 per cent. of pepper husks, which was followed by two official samples; both samples contained 6 per cent. of pepper husks. The vendor was proceeded against and fined £1 10s., and 14s. costs.

JAM. Thirteen samples were taken, of which one unofficial sample contained $2\frac{1}{10}$ grains per lb. of benzoic acid; further samples were taken and found to be genuine.

COFFEE. Five Samples were taken and two were reported against as follows :—Each sample contained 75 per cent. of chicory and were from a shop in a poor district selling small quantities ; one was an official sample, the vendor being proceeded against and fined 6s. and 9s. costs, the other was an unofficial sample.

VINEGAR. Three samples were taken, and two samples were reported against as follows :—One sample contained only 69·5 per cent. of minimum amount of acetic acid, the vendor was proceeded against and fined £1 10s. inclusive of costs. One sample contained 80 per cent. of artificial vinegar, the vendor was proceeded against, and the case dismissed on payment of 3s. costs.

HONEY. Three samples were taken and one sample was reported as containing a small quantity of invert sugar.

OTHER FOODS. The following are the samples of other foods taken and certified genuine :—Forty-seven lard, sixty-five butter, fourteen bread and butter, six cheese, twelve rice, twelve margarine, one tea, one coffee and chicory, one sugar, one mustard, one tinned crab, two fish fryers' fat, one yeast, one sage, one pearl barley, six beer, two corn-flour, six sausages, seven aerated waters, one arrowroot, one oatmeal, one dark treacle, one golden syrup, one fruit wine.

DRUGS. AMMONIATED TINCTURE OF QUININE. Four samples were taken, and two samples were reported against as follows :—Each sample contained only 70 per cent. of solution of ammonia required by the British Pharmacopœia. The vendor was proceeded against, and the cases were withdrawn on payment of £1 1s. costs.

OTHER DRUGS. The following are the samples of other drugs taken

and certified genuine :—Three cod liver oil, two castor oil, four glycerine, three compound liquorice powder, three milk of sulphur, four olive oil, two sal volatile, two soap liniment, three tincture of iodine, two zinc ointment, three Gregory powder, four ground ginger, four camphorated oil, two turpentine, two flowers of sulphur, three citric acid, one boracic acid ointment, two iron and quinine citr., four tartaric acid, two resin ointment, two borax, three cream of tartar, three baking powder, one Seidlitz powder, one lime water, two prescriptions, one borax and honey, one quinine, one paregoric.

(C) MILK AND CREAM REGULATIONS, 1912.

The following statement shows the details of the work done under these regulations :—

(1) *Samples Examined :*

	(a) No. of Samples examined for the presence of a preservative	(b) No. in which a preservative was reported to be present
Milk	489	9
Cream	6	4

(2) *Cream Sold as Preserved Cream :*

(a) Instances in which samples have been submitted for analysis to ascertain if the statements on the label as to preservatives were correct :—

(i.) Correct statements made..	15
(ii.) Statements incorrect ..	—
	—
Total ..	15

(b) Determinations made of milk fat in cream sold as preserved cream :—

(i.) Above 35 per cent. ..	14
(ii.) Below 35 per cent. ..	1
	—
Total ..	15

(c) Instances where (apart from analysis) the requirements as to labelling or declaration of preserved cream in Article V. (1) and the proviso in Article V. (2) of the Regulations have not been observed. There were found sixteen cafés, restaurants, etc., at the beginning of the year selling preserved cream for consumption in the premises but not displaying the required notice. A circular letter was sent to proprietors and managers of all cafés, &c., warning them of the Regulations.

(3) *Thickening Substances*: None.

(4) *Action taken by the Council*:

MILK. (i.) Sample containing $\frac{3}{4}$ grain per pint of boric acid. The vendor appeared before the Health Committee and was cautioned. (ii.) Sample containing $1\frac{1}{4}$ grain per pint of boric acid. The vendor obtained the milk from the dairy from which the next two samples were obtained. The Health Committee decided to take no proceedings. (iii.) Samples containing $1\frac{1}{5}$ and $1\frac{1}{5}$ grains per pint respectively of boric acid. (iv.) These are the two samples just referred to and were from a dairy in the South of England. Proceedings were instituted and afterwards withdrawn on the Health Committee's instructions and on the payment of five guineas costs. (v., vi., and vii.) Samples containing .0428, .061 and .14 respectively grains per pint of formic aldehyde. These three samples were from one dairyman and taken on different dates. Proceedings were taken and the vendor fined 12s. 6d. and 34s. costs. (viii.) Samples containing .7 grains per pint of formic aldehyde. Proceedings taken; conviction obtained, £2 fine and 28s. costs. (ix.) Sample containing .5 grain per pint of formic aldehyde, proceedings were instituted and the case was dismissed on payment of 3s. costs. The same defendants were fined at the same time £5 and 35s. costs for 8.7 per cent. of added water.

CREAM (i. ii., and iii.). Samples containing .29 boric acid and 50.3 fat per cent., and .067 boric acid and 19.1 fat per cent.,

and .1 boric acid, and 13.3 fat per cent. These three samples were from the same café, which neglected to publicly notify after warning. Proceedings were taken against the first two (official samples) and 1s. fine and 17s. 6d. costs imposed. (iv.) Sample containing .007 boric acid and 40.0 fat per cent. No proceedings were taken. The café proprietor now publicly notifies the cream to be "preserved" cream.

(D) SLAUGHTERHOUSES AND MEAT INSPECTION.

There are in Bradford two public slaughterhouses, 42 private slaughterhouses, and one knacker's yard.

The private slaughterhouses are in 28 cases registered slaughterhouses, and in 14 cases subject to annual license. The knacker's yard is a licensed slaughterhouse.

Two meat Inspectors are engaged whole time in the work of meat and slaughterhouse inspection.

The inspectors visit several times daily the public abattoirs so that all meat prepared there for sale is subjected to inspection. The number of visits to private slaughterhouses made last year was 2,328, or an average of rather over one to each per week. Generally the private slaughterhouses have been found clean and satisfactory and no suspicion has arisen of unsound meat being prepared in them, but the work of maintaining an effective supervision of private slaughterhouses is laborious and unsatisfactory.

The number of carcasses condemned wholly or partly during the year was 1,195. These were as follows:—

CARCASSES WHOLLY OR PARTLY CONDEMNED.

	Wholly	Partly	Total
Cows	78	409	487
Hiefers	17	73	90
Bullocks	5	27	32
Calves	41	19	60
Sheep	84	66	150
Pigs	215	161	376
Total	440	755	1195

The total weight of meat found unwholesome or unsound and destroyed was made up as follows:—

WEIGHT IN LBS.

Beef	52,020
Veal	2,317
Mutton	5,572
Pork	37,232
Offal	29,120
=Total	126,261 lbs.
56 Tons, 7 cwts., 37 lbs.	

The total number of animals slaughtered in the public abattoirs is shown in the following table :—

NUMBER OF ANIMALS SLAUGHTERED AT PUBLIC ABATTOIRS.

	St. James's	Bolton Lane	Total
Beasts ..	11982	2252	14234
Sheep ..	22873	6922	29795
Lambs ..	4670	1586	6256
Calves ..	3800	1040	4840
Pigs ..	11350	6019	17369
	54675	17819	72494

Of these animals 433 beasts and 204 pigs were found tuberculous, the extent and incidence of the disease is shown in the following table :—

TUBERCULOUS CARCASSES AT PUBLIC ABATTIORS.

	Beasts		Pigs	
	No.	Per cent.	No.	Per cent.
Wholly destroyed	56	0·39	97	0·56
Partially destroyed	34	0·24	22	0·13
Internal organs only destroyed	343	2·45	85	0·49
Total	433	3·08	204	1·18

The meat sold in the markets and shops has been under frequent inspection and the meat at the Fever Hospital, Union, and School Canteen, has been examined periodically and found according to contract.

During the year 887 visits were made by the Inspectors on Sunday morning to butchers' shops open on that day, but no unsaleable meat was discovered. The number of visits in 1913 to premises where sausages and potted meat are prepared was 3,155, the premises were generally found satisfactory.

Under the Public Health Act, 1875, a provision merchant was fined £2 and 13s. costs for exposing for sale, bacon which was unfit for human food.

(E) OTHER ARTICLES OF FOOD.

One special Inspector is employed in the inspection of fish, game, poultry, fruit, and vegetables. The Inspector visits daily St. James's Wholesale Market and Rawson Place Retail Market. During the year he paid 741 visits to retail fish, game, and poultry dealers' premises, and 219 visits to fish curing yards, all of which were found clean and satisfactory.

The total quantity of fish, game, poultry, and fruit found unsound during 1913 and destroyed was 35 tons, 6 cwts., 69 lbs. This is shown in the following table:—

	No.	Weight destroyed		
		Tons	cwts.	lbs.
Fish	—	4	16	89
Shell fish	—	7	6	28
Rabbits	3066	3	8	—
Poultry and Game	75	—	5	3
Fruit and Vegetables ..	—	19	4	43
Sundries	—	—	6	18
Total	3141	35	6	69

In addition also 1,800 eggs were condemned and destroyed by the Food Inspector.

In the great majority of cases when these articles of food were condemned the circumstances did not warrant proceedings, but in the following, prosecutions were undertaken.

In one case 11 bloaters, 21 kippers, and 7lbs. codfish were seized at a retail shop on a Sunday morning as putrid. The defendant had been warned several times previously and was fined £2 and 7s. costs.

In another case 62 pieces of haddock in a very bad state were seized at a fried fish shop on a Sunday night. The defendant was fined 10s. and 7s. costs.

In one case 168lbs. gooseberries were seized at a wholesale dealer's. The gooseberries were affected with American Mildew and the consignors were prosecuted and fined each 10s. and 11s. costs.

In one case proceedings were undertaken under Public Health Acts Amendment Act, 1890, Section 28, with respect to 171lbs. black currants and a fine of 13s. and 7s. costs was imposed.

Ice Cream. The special food Inspector also undertakes the inspection of premises where ice cream is prepared and during the year paid 631 visits to these places. Generally the premises have been found to show considerable improvement under his continuous supervision, but great difficulty has been found in getting to know all the places where ice cream is prepared as there is no system of registration provided. In three cases where it was found that ice cream was being made in unsuitable premises under very foul conditions, prosecutions were instituted against the manufacturers and fines, amounting to 22s. 6d. and costs of 21s. were imposed. These fines considering the nature of the offences, may be considered small.

Bakehouses. The work done in the inspection of bakehouses is shown on pages 134—140.

X. WORKSHOP AND SHOPS INSPECTION, &c.

(A) FACTORY AND WORKSHOP ACT, 1901.

The total number of workshops on the register is 2,439, and of bakehouses 483, as compared with 2,537 and 505 respectively at the end of 1912.

Two Inspectors are engaged almost wholly on workshop and shop inspection and they are assisted by one of the women inspectors and by the district sanitary inspectors. The number of visits paid in 1913 to workshops was 2,659, and to bakehouses 784. During this time also, 327 visits were made to factories. At these inspections special attention is paid to the cleanliness, ventilation, air space, closet accommodation, and general sanitary condition of these places, as required by the Public Health Acts and the Factory and Workshops Acts.

Fourteen employers were found who had failed to keep on their premises a list shewing the names and addresses of all persons employed by them outside such premises, as required by the Factory and Workshop Act, 1901. In one case a prosecution was instituted and the remainder were warned.

Two hundred and twelve employers who had failed to send in on the 1st of February and the 1st of August a list of outworkers employed by them as required by the Factory and Workshop Act, 1901, were warned and allowed one month's grace in each case, with the result that 203 lists were duly received within that period. In the remaining 9 instances the employers were prosecuted.

Two hundred and twenty-nine visits of inspections were made to outworkers' premises, in the course of which 30 sanitary defects were found to exist. These have since been remedied.

The following is a summary of the sanitary and other defects found to exist in workshops, workplaces, and bakehouses ; with slight exceptions the defects have all been remedied.

Particulars.	Number of cases.
Workshops without Abstract of the Factory and Workshop Act.	
(Notified to H.M. Inspector of Factories)	101

Particulars.	Number of cases.
Dirty workshops linewashed and cleansed.. ..	168
Dirty bakehouses linewashed and cleansed	118
Workshops without separate closet accommodation for the sexes	29
Workshops with insufficient closet accommodation	11
Workshops with foul or defective w.c.'s or privies	186
Workshops where additional ventilation was required	21
Workshops which were overcrowded	9
Gas stoves without provision for carrying off fumes	10
Baking underground without a certificate	3
Various other nuisances remedied	8
Total	664

In the official tables on pages 137—140 will be found a statement of the work done under the Factory and Workshop Act, 1901.

The following prosecutions were undertaken during the year :—

- (a) For failing to send in the list of outworkers 9 persons were prosecuted and fined in all £2 and £2 19s. costs.
- (b) For failing to keep a list of outworkers one person was fined 1s. and 9s. costs.
- (c) For failing to linewash a bakehouse one case was dismissed on payment of 3s. costs.

FACTORIES, WORKSHOPS, LAUNDRIES, WORKPLACES AND HOMEWORK.

I.—INSPECTION.

INCLUDING INSPECTIONS MADE BY SANITARY INSPECTORS OR
INSPECTORS OF NUISANCES.

Premises.	Number of		
	Inspections.	Written Notices.	Prosecutions.
<p>FACTORIES (Including Factory Laundries)</p>	327	97	—
<p>WORKSHOPS (Including Workshop Laundries)</p>	3443	181	1
<p>WORKPLACES (Other than Outworkers' premises in- cluded in part 3 of this Report)</p>			
TOTAL	3770	278	1

II.—DEFECTS FOUND.

Particulars.	Number of Defects.			Number of Prosecutions.
	Found.	Remedied.	Referred to H.M. Inspector.	
<i>Nuisances under the Public Health Acts—</i>				
Want of cleanliness	244	244	...	...
Want of ventilation	27	27	...	...
Overcrowding	9	9	...	...
Want of drainage of floors	23	23	...	...
Other nuisances	478	477	...	...
* Sanitary accommodation {	insufficient	45	42	...
	unsuitable or defective	259	252	...
	not separate for sexes	53	51	...
<i>Offences under the Factory and Workshop Act—</i>				
Illegal occupation of underground bake-house (S. 101)	3	3	...	...
Breach of special sanitary requirements for bakehouses (SS. 97 to 100) ...	118	118	...	1
Other offences (Excluding offences relating to out-work which are included in part 3 of this Report).	...	...	...	...
TOTAL	1259	1246	...	1

* Sec. 22 of the Public Health Acts Amendment Act, 1890, adopted.

III.—HOMEWORK.

OUTWORKERS' LIST, SECTION 107.									
NATURE OF WORK.	List received from Employers.					Notices served on Occupiers as to keeping or sending lists.	Prosecutions.		
	Sending twice in the year.		Sending once in the year.				Failing to keep or permit inspection of lists.	Failing to send lists.	
	Lists.	Outworkers.		Lists.	Outworkers.				
		Con-tractors.	Work-men.		Con-tractors.				Work-men.
WEARING APPAREL—									
(1) Making, &c. ...	266	181	541	14	2	15	202	1	9
(2) Cleaning and Washing ...	...	11	...	...	...	...	...	...	...
Furniture and Upholstery ...	20	73	39	...	...	...	18	...	...
Umbrellas, &c. ...	8	9	10	...	...	...	4	...	...
Basket making ...	...	...	...	...	...	...	...	...	...
Brush making ...	...	...	...	...	...	...	...	...	...
Electro Plate ...	2	12	...	...	...	...	2	...	...
Cart Gear ...	...	...	...	...	...	...	...	...	...
Locks, Latches and Keys ...	2	8	4	...	...	...	...	...	...
Curtains and Furniture Hangings ...	...	...	...	...	...	...	...	...	...
Household Linen ...	...	...	4	...	...	...	...	...	...
Paper, etc., Boxes, Paper Bags ...	2	...	4	...	...	...	...	...	...
TOTAL ...	300	294	602	14	2	15	226	1	9

IV.—REGISTERED WORKSHOPS.

Workshops on the Register (s. 131) at the end of the year.							Number.
Important classes of workshops, such as workshop bakehouses, may be enumerated here.	Workshops						2439
	Bakehouses						483
	Total number of workshops on Register ...						2922

V.—OTHER MATTERS.

Class.	Number.
Matters notified to H.M. Inspector of Factories :—	
Failure to affix Abstract of the Factory and Workshop Act (S. 133)	101
Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Act (S. 5)	Notified by H.M. Inspector
	Reports (of action taken) sent to H.M. Inspector.
Other	5
Underground Bakehouses (S. 101) :—	
Certificates granted during the year	1
In use at the end of the year	45

(B) SHOPS ACTS, 1912 and 1913.

The number of visits and investigations made where young persons are employed was 3,749. In 190 shops the employers had failed to exhibit the notice referring to the provisions of the Act and stating the number of hours during which young persons may be employed. Two of these employers who had previously been cautioned for similar offences were prosecuted and the remainder cautioned. Eight young persons were found employed in shops after having been previously on

the same day employed in a factory or workshop for the full number of hours permitted by the Factory and Workshop Act. In one case the employer was prosecuted, and the remainder warned that a repetition of the offence would involve prosecution.

Special visits were made to 435 shops where female assistants are employed and enquiries made as to compliance with the provisions of the Shops Act. In all cases it was found that the seats were provided.

A large number of day and night observations have been made of shops to see if the provisions relating to the weekly half-holiday were carried out. In 169 cases it was found that no notice had been fixed specifying the day chosen by the shopkeeper as the day fixed for the closing of the shop on the weekly half-holiday; 358 shops were found open and the occupiers not displaying the mixed trades notices specifying the exempted trades for which they were remaining open after the hour of closing on the weekly half-holiday. With one exception the whole of these shopkeepers were warned that a repetition of the offence would involve them in legal proceedings. Two hundred and twenty-one shops were found open and the occupiers selling non-exempted articles, in 31 cases proceedings were taken against the offenders and the remainder were warned.

Ninety hawkers were found selling goods in the street after the hour of closing on the day fixed for the weekly half-holiday. In twenty-four cases where the offence was repeated after warnings had been given, the offenders were prosecuted.

In 257 cases it was found that the employer had failed to provide the prescribed form relating to their assistant's weekly half-holiday, but

upon this being pointed out to the persons concerned the form was in each case immediately provided. It was also found that in 24 cases shop assistants were employed on the day fixed for their weekly half-holiday after the hour of 1.30 p.m., and in 5 cases proceedings in the City Court were instituted and the responsible persons fined.

Considerable difficulty has again been experienced in the administration of the section of the Act relating to meal times, and 49 cases were found where assistants were not having the correct intervals for meals prescribed by the Act. Two cases were taken into Court, but the Stipendiary Magistrate dismissed them both, these cases thus sharing the same fate, which the 6 cases taken last year met with.

Closing and Exemption Orders. Visits have been specially made by day and night after closing hours to butchers' shops and hairdressers' shops in connection with the respective closing orders. Numerous observations were made, and 5 were found open in contravention of the orders. Twenty-four were also found to be not displaying their official copies of the closing orders, but as these were all first offences, the occupiers were cautioned.

During the year a petition signed by the necessary majority of monumental masons, was presented to the Local Authority asking for that class of trade to be exempt from the provisions of the Shops Act, as to the closing of their shops on a weekly half-holiday, and upon the petitioners signatures being verified it was found that the necessary majority had been obtained, your Committee therefore granted the exemption order applied for.

During the month of August a petition was received from the bakers

and confectioners, asking the Council to make a weekly half-holiday order for that trade, the Inspector verified the signatures and ascertained that the two-thirds majority, required by the Act, had been obtained with the result that the Order was made by the Council at their October meeting. Since then, however, much opposition has been raised against the Order, and the Secretary of State has intimated that he cannot approve it, as there now appears to be more than a third of the shopkeepers affected against the Order.

Prosecutions.

- (a) For failing to affix abstract relating to young persons 2 shopkeepers were proceeded against and fined 9s. and £1 1s. costs.
- (b) For failing to observe the weekly half-holiday 31 persons were proceeded against and fines amounting to £14 8s. and £8 17s. costs were imposed.
- (c) Proceedings were instituted against 24 hawkers for hawking on the weekly half-holiday and fines of 18s. 8d. and £3 17s. costs were imposed.
- (d) For breaches of the assistants' weekly half-holiday 5 persons were proceeded against and fined £1 5s. and £1 18s. costs.
- (e) For employing young persons after employment in a factory one case was dismissed on payment of 7s. costs.
- (f) A case against a shopkeeper for failing to exhibit mixed trades notices was withdrawn.
- (g) In two cases of breach of assistants' meal times the complaints were dismissed.

(C) THE RAG FLOCK ACT, 1911.

During the year 47 samples of flock were obtained and submitted to the City Analyst for analysis, 13 of which were found not to conform to the standard prescribed by the Local Government Board Regulations. Proceedings were instituted in 4 cases, particulars of which are enumerated below. In the 9 remaining cases the owners of the flock were warned by letter from the Town Clerk.

- (a) Sample of flock used for making bedding, contained 53·9 parts of soluble chlorine as chlorides per 100,000. Resulted in a fine of 11s. and 9s. costs.
- (b) Sample of flock used for making bedding, contained 70·92 parts of soluble chlorine as chlorides per 100,000. Resulted in a fine of £2 and 9s. costs.
- (c) Sample of flock used for making bedding, contained 51·06 parts of soluble chlorine as chlorides per 100,000. Resulted in case being dismissed on payment of costs of £2 2s.
- (d) Sample of flock used for making bedding, contained 35·46 parts of soluble chlorine as chlorides per 100,000. Resulted in defendant paying £2 2s. costs.

XI.—CLOSET ACCOMMODATION.

It is very difficult to state even approximately the number and character of the sanitary conveniences provided for the houses in Bradford. The following figures compiled from a census taken by the Inspectors in 1906 and brought up to date by the known conversions are given with great reservation. The time has again come when a full and accurate census should be taken so that the Local Authority may have a correct estimate of the present position.

SANITARY ACCOMMODATION AT THE END OF 1913.

(i.) Dwelling Houses.

	No. of Houses	Water Closets	Waste Water Closets	Privies
WATER CLOSETS.				
More than one sanitary convenience to each house ..	5090	7722	568	2319
One to each House	28108	28108	—	—
Less than one to each house	14037	7478	—	—
WASTE WATER CLOSETS.				
One to each house	7303	—	7303	—
Less than one to each house	260	—	131	—
PRIVIES.				
One to each house	10094	—	—	10094
Less than one to each house	9700	—	—	4569
Totals	74592	43308	8002	16982

SUMMARY.

	Number	Percentage
Houses with water closets	47235	63
Houses with waste water closets	7563	11
Houses with privies only	19794	26

(ii.) Business and Other Premises.

	No. of Premises	Water Closets	Waste Water Closets	Privies
Factories, workshops, and other business premises ..	4150	9741	—	489
Place of worship, schools, public institutions, &c. ..	446	2824	—	288
Total	4596	12565	—	777

(iii.) Totals.

Number of water closets	55873
„ waste water closets	8002
„ privies	17759
	————— 81634
Number of middens	10788
„ dry ashpits	27658
„ dust bins	6020
	————— 44466

It will be noticed that 14,037 houses with water closets and 9,700 houses with privies have less than one sanitary convenience to each house. It therefore happens that more than in a quarter of the houses in Bradford the standard of sufficiency of sanitary accommodation is very low.

For some years past the local authority have been actively engaged in pushing forward the whole of conversion of all the privies in the City.

This is carried out under the provisions of Section 21 of the Bradford Improvement Act, 1873, which states:—

In addition to all powers vested in the Corporation the Corporation may in any case where a dwelling-house within the borough shall be without a privy water closet or earth closet or an ashpit or without a privy water closet or earth closet or an ashpit of a construction and size approved by the Corporation require the owner of such house by notice under the hand of the Mayor or Town Clerk for the time being to provide such a privy water closet or earth closet or such an ashpit or to make such preparation or alteration of the existing privy water closet or earth closet or ashpit as in such notice shall be stated and within a period to be therein mentioned. If such owner shall neglect to comply with such notice within the time therein appointed he shall for every such offence forfeit a sum not exceeding Five pounds and a further penalty not exceeding the like sum for every day during which such offence shall continue.

The conversions which took place during the past year under this Section affected 4,024 houses of which 2,193 had middens.

The number of new sanitary conveniences erected in the different types of buildings during the past six years is seen in the following table.

NEW SANITARY CONVENIENCES.

YEAR.	DWELLING-HOUSES.		FACORIES AND WORKSHOPS.		OTHER PREMISES.		TOTAL.	
	W.C.s.	Privies.	W.C.s.	Privies.	W.C.s.	Privies.	W.C.s.	Privies.
1908 	1854	25	254	2	78	5	2186	32
1909 	1969	12	194	2	28	1	2191	15
1910 	1945	18	217	2	—	—	2162	20
1911 	2128	8	202	—	35	2	2365	10
1912 	2917	9	196	—	95	—	3208	9
1913 	3990	1	160	—	88	—	4238	1

The work of conversion of sanitary conveniences is one of peculiar difficulty in Bradford as many of the houses provided with the old type of privy middens have not the land attached necessary for the new water closets. In addition also the majority of these houses are back to back complicating greatly the problem of selection of suitable sites for the new conveniences.

In most of such cases it is well nigh impossible for owners of houses by a simple conversion of privy middens to bring about a condition of decency and cleanliness, and if the best results are to be attained it is necessary to sacrifice some houses to clear the site for the benefit of the remainder. In several cases recently this has been done by suggested closure of some of the houses to owners submitting schemes of improvement, but with the diversity of conditions presented it is by no means easy to maintain high ideals in carrying out this work.

Dustbins. The very small number of houses provided with dustbins as compared with the conversions taking place is a matter for comment. This arises chiefly for the want of suitable places to set dustbins so that the old middens have to be converted into dry ashpits in many instances. While dry ashpits are certainly an improvement on wet middens they are far from the best type of method of disposing of dry refuse. Regulation dustbins may be required under Section 56 of the Bradford Corporation Act, 1910, which states:—

The Corporation may by notice in writing require the owner or occupier of any dwelling-house to provide galvanised iron or enamelled iron dustbins for the convenient removal of house refuse and such dustbins shall be of such size and construction as may be approved by the Corporation and any owner or occupier who fails within fourteen days after notice given to him to comply with the requirements of the Corporation shall be liable to a penalty not exceeding twenty shillings and to a daily penalty not exceeding five shillings. Provided that this Section shall not authorise the Corporation to require the provision of a dust bin thereunder in any case in which a dustbin or ashpit in use at the passing of this Act is of suitable size and in proper order and condition.

The bust bins at present in use in Bradford are by no means of the best construction from a sanitary point of view as many are not provided with a tightly-fitting cover, and in common yards have no fixed place, while very few are raised from the surface of the ground. These are now principles which should be adopted in any regulation of dustbins.

For failing to comply with the requirements of notices served upon them to reconstruct or convert privies into water closets proceedings were taken in 36 instances. In 20 cases these proceedings were withdrawn on payment of costs amounting to £3 as the owners had in the meantime taken steps to comply with the notices. In 4 cases penalties and costs amounting to £8 9s. were imposed, while in the remaining 12 cases the proceedings were adjourned for over a year to allow of the completion of the work.

XII.—GENERAL NUISANCE WORK.

(A) DRAINAGE.

The number of tests of house drains done by the Inspectors was 3,889; they were carried out in the following manner:—

Nature of Test.	Number of Tests.	Result.	
		Defective.	Non-Defective.
Volatile	1727	535	1192
Coloured Water	1678	205	1473
Smoke (Rocket)	600	120	480
Do. (Machine)	23	10	13
Hydraulic	10	6	4
Totals	4038	876	3162

The very small number of water or hydraulic tests carried out last year is notieeable. There can be no doubt but that this is the most efficient test to apply to house drains, but it is not applicable to old drains. It should, however, be applied in all cases of new or reconstructed drains, and a serious effort should be made to bring about its more general use. Where this test has been adopted elsewhere it has been found that a much greater proportion of defective work is discovered but contractors soon get aecustomed to doing work which will stand this test.

During the year the drainage of 57 bloeks of property comprising 257 houses were dealt with under Section 41 of the Publie Health Act, 1875, as against 4,531 houses in 1912, 349 in 1911, and 167 in 1910.

In 1913 rain water down spouts were disconnected from the drains or sewers in 879 houses. This involved a cost to the Local Authority of £286 2s. 2d., or an average of 19s. 3d. for the 297 down spouts in 306 houses with respect to which the loeal authority had some liability (Publie Health Aets Amendment Act, 1907, as adopted in the Local Government Board Order of 5th July, 1909).

(B) OFFENSIVE TRADES.

Under the Public Health Aets, 1875 to 1907, bye-laws with respect to offensive trades are in operation in the City regulating the following businesses :—Blood boiler, blood dryer, and trades connected with blood and other putrescible animal matter; bone boiler, tripe boiler, tallow melter, fat melter, or fat extraetor, size maker or manufacturer, fell-monger, oil distiller and refiner, gut seraper, fish fryer, artifeial manure manufacturer, hide and skin dealer, and rabbit skin dryer.

(C) SMOKE PREVENTION.

In Bradford there is one smoke Inspector employed whole time in the work in which he is also assisted by the district sanitary Inspectors. Action is chiefly taken under the special powers acquired in the Local Acts of 1910 and 1913.

The following table shows the number of notices served and prosecutions undertaken during the past 6 years.

SMOKE PREVENTION. NOTICES AND PROSECUTIONS, 1908-1913.

Year.	Notices Served.	Prosecutions.	Cases Dismissed.	Withdrawn.	Fines.	Costs.	Total.
					£ s. d.	£ s. d.	£ s. d.
1908	68	38	—	1	10 18 6	15 5 0	26 3 6
1909	81	29	—	4	8 0 0	11 0 0	19 0 0
1910	67	22	—	4	7 10 0	6 18 0	14 8 0
1911	44	18	—	2	6 4 0	5 18 0	12 2 0
1912	83	23	6	1	40 0 0	31 5 0	71 5 0
1913	15	3	—	1	5 0 0	3 3 0	8 3 0

During the past two years there has been considerable improvement in the smoky condition of the atmosphere due to industrial chimneys. The manufacturers as a whole have appreciated the increased powers of the authority in dealing with this nuisance and have in many cases voluntarily carried out improvements in their plant so as to prevent undue smoke emission. The increased care which is now being taken is seen from the fact that certain large manufacturers have themselves made arrangements for periodic observations of smoke emission. In 1913 material improvement in boiler plant had been carried out in 19 works, while steam-raising plant has been displaced by electricity in 25 instances. There is still, however, room for further improvement. Frequent complaints are still made of the grit nuisance and in dealing with this much practical difficulty has been experienced.

(D) SANITARY INSPECTORS' WORK.

The following summary is supplied by the Inspector of Nuisances as to the work performed by the sanitary inspectors during the year.

Total number of Inspections	151603
Total number of Nuisances reported ..	13644

PARTICULARS OF WORK DONE, 1910-1913.

	Number of Cases			
	1910	1911	1912	1913
<i>Drainage and Sanitary Arrangements—</i>				
Choked drains Cleansed	1456	1887	1690	1458
Drains repaired	1175	1215	945	878
Drains reconstructed	476	1232	1733	1546
Extra drains provided	115	390	539	293
Cellars drained	13	75	79	47
Drains underneath houses abolished ..	67	130	61	34
Drainage system intercepted from sewers ..	38	72	40	13
Open drain inlets trapped	69	137	108	97
Waste pipes disconnected	127	231	93	221
Rain water pipes disconnected	247	912	871	911
Rain water conductors repaired or renewed	2319	3107	2502	2515
House sinks repaired or renewed	82	173	167	279
New house sinks provided	7	181	355	155
Water closet pedestals renewed	144	212	264	196
Water closets and flushing apparatus repaired	399	490	630	451
Water closets cleansed	173	310	282	230
Water closet apartments cleansed and lime-washed	208	632	534	728
Soil pipes repaired or renewed	66	140	109	130
Indoor soil pipes abolished	8	15	11	7
Urinals cleansed, amended, or screened ..	40	97	24	28
Urinals remodelled	13	7	14	6
New urinals provided	7	12	2	2
<i>Privies and Ashpits—</i>				
Deposit of slops in ashpits prohibited ..	110	108	165	201
General repairs executed	1028	1332	1067	1009
Privy apartments cleansed and limewashed	218	693	386	307
Dust bins repaired or renewed	93	91	229	161
<i>Dwelling-houses, &c.—</i>				
Dampness excluded	135	371	346	232
Roofs repaired	368	807	623	542

					No. of Cases.			
					1910	1911	1912	1913
General repairs executed	..	..	..	..	475	889	832	852
Houses or parts cleansed or limewashed	..	..	..	..	350	693	413	380
Ventilation improved	..	..	..	..	—	172	86	269
Overcrowding abated	..	..	..	..	14	25	26	74
Cellar areas cleansed	..	..	..	..	70	94	30	52
Caravans removed	..	..	..	..	51	47	85	27
<i>Courts, Back Yards, and Stable Yards—</i>								
Paving repaired in yards and passages	..	..	..	..	278	393	345	257
Yards and passages newly paved	..	..	..	..	—	37	34	28
Yards cleansed	..	..	..	..	171	319	183	321
Passages cleansed and limewashed	..	..	..	..	137	397	261	322
<i>Keeping of Animals, &c.—</i>								
Improper keeping of swine prohibited	..	..	..	..	17	37	24	5
Improper keeping of fowls, &c., prohibited	..	..	..	..	125	92	52	49
Accumulations of offensive matter removed	..	..	..	..	164	285	200	333
Accumulations of manure removed	..	..	..	..	271	262	247	177
Manure pits repaired	..	..	..	..	30	21	7	23
Manure pits provided	..	..	..	..	16	14	3	5
<i>Miscellaneous Nuisances—</i>								
Dangerous places made secure	..	..	..	..	—	123	262	222
Other unclassified nuisances abated	..	..	..	..	72	136	66	35
<i>Special Inspections—</i>								
Graveyards	..	..	..	..	603	489	308	324
Offensive trade premises	..	..	..	..	646	811	541	419
Zymotic diseases investigated and subsequent visits	..	..	..	..	3101	3003	4201	2795
Complaints specially investigated	..	..	..	..	1308	1400	1148	1226

The number of Statutory Notices served for the abatement of nuisances was 4,647, as against 4,482 last year.

The number of preliminary notices served for dangerous places to be made secure was 68, as against 77 last year.

In default of compliance with the requirements of notices served, 4 cases were heard before the City Magistrates. In one case an Order

was made to abate the nuisance within 14 days, and 9s. costs awarded the Corporation. In the remaining 2 cases the work having been completed satisfactorily, application was made for their withdrawal on payment of the costs, 3s. in each case.

Action was taken with reference to the housing of 20 adult Somalis and 10 children at an exhibition in Bradford called the "Somali Village." After the service of the summons special vans were provided for the natives, but the proprietor was fined 40s. and costs.

Proceedings were instituted against a person for an unprovoked assault on one of the District Inspectors whilst engaged in the performance of his duties. A fine of 7s. and costs was imposed, and the defendant bound over for 6 months in his recognisance of £5.

XIII.—LODGING HOUSES AND CANAL BOATS.

(A) COMMON LODGING HOUSES.

There were at the end of the year 35 registered common lodging houses in the City. In these houses there are 189 sleeping rooms affording accommodation for 1,606 men, 162 women, and 44 married couples, a total of 1,856 persons.

The total number of nights spent by persons in common lodging houses in Bradford in 1913 was 575,489 so that an average of 1,577, using 89 per cent. of the accommodation occupied the houses nightly.

During the year 2 common lodging houses were voluntarily closed, while 2 new houses were registered and one enlarged, while in 2 cases there was a change in the registered keepers.

The houses are kept under constant inspection by the common lodging house Inspector, and many structural improvements were carried out during the year.

(B) HOUSES LET IN LODGINGS.

During the past two years special efforts have been made to bring about better conditions in the sublet houses in certain parts of the City, and the following table shows the results of the work done in the four districts.

HOUSES LET IN LODGINGS IN CERTAIN DISTRICTS AT END OF EACH YEAR, 1911-1913.

Year	District				Total
	Bolton Road	George Street	Manchester Road	Westgate	
1911	36	98	25	38	197
1912	9	58	26	55	128
1913	—	4	6	18	28

The condition of these houses was improved chiefly by the issue of closing orders, 164 of the total, 197 houses being so dealt with. As a result of the action taken 1 house was demolished, 101 after improvements became let furnished to one family only, 46 were let unfurnished to one tenant, 29 are unoccupied, and 5 were converted to other uses.

At the present time there are 28 houses let in lodgings in these districts, 18 of which are in White Abbey and will be dealt with during the current year.

(C) CANAL BOATS.

The number of boats inspected in the City during the year was 452, and 43 breaches of the Canal Boats Acts and Regulations were found.

These defects were mostly of a minor character, but notices were

served in each case. No cases of infectious disease were notified on canal boats. There are no canal boats on the register of this Authority.

XIV.—MISCELLANEOUS.

(A) AMBULANCE WORK AND DISINFECTION.

The ambulance station for cases of Infectious Disease is situated at Leeds Road Hospital. At the end of the year there were two horse ambulances, two horses, and two drivers employed in the work. The Council, in 1913, determined to purchase a motor ambulance for this work. The number of patients removed in 1913 by the ambulances was 679.

Bradford has a well-equipped disinfecting station at Canal Road, with two motor vans for the removal of clothing and bedding; the number of articles disinfected there during the year was 12,462. The number of houses disinfected for infectious disease by the health staff was 1,109, while in a small number of cases disinfection was carried out at the request of manufacturers, property owners, and others, for which a small charge was made, the total amounts received being £8 18s. 9d.

(B) PUBLIC MORTUARY.

The new mortuary in Wilton Street was opened October 11th, 1910. During the past year 81 bodies have been deposited and 30 post mortem examinations made.

(C) CREMATORIUM.

The remains of 15 persons were cremated during 1913 at the Scholemoor Crematorium, in comparison with 9 during the previous year.

The following table, prepared by the Cremation Society of Great Britain, shows the number of Cremations carried out in Great Britain since the year 1885.

Table of Cremations carried out in Great Britain since the year 1885.

	1885-90.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	Total.
Woking ...	154	99	104	101	125	150	137	173	240	240	301	273	275	143	138	95	140	108	119	105	106	114	125	128	3693
Manchester	3	30	47	58	52	51	62	88	83	96	81	92	98	97	90	98	116	106	114	124	149	172	1907
Glasgow	1	10	16	12	16	20	18	20	24	19	35	44	30	28	30	28	39	44	49	483
*Liverpool	2	10	27	23	40	40	54	35	40	35	46	34	32	46	37	50	52	66	669
*Hull...	17	13	18	20	15	17	29	37	15	21	25	27	23	277
Darlington	1	2	1	7	4	13	8	6	9	9	12	15	11	98
Golder's Green...	5	158	220	252	298	290	364	421	415	542	591	602	4158
*Leicester...	1	5	8	16	12	12	14	19	16	13	14	11	141
Birmingham	1	19	22	25	33	18	30	38	44	40	59	329
*Leeds	16	15	16	24	19	12	17	24	16	159
*Ilford...	9	23	18	19	24	22	20	32	21	188
*Bradford...	1	14	13	6	13	14	13	9	15	98
*Sheffield	7	6	18	12	18	8	10	12	15	106
Total ...	154	99	107	131	172	209	201	250	341	367	444	445	451	477	567	604	743	707	795	855	840	1023	1134	1188	12,306

* Municipally controlled.

XV.—STAFF.

The Staff employed by the City Council as a Health and Education Authority, in public health and medical work, is as follows :—

- 1 Medical Officer of Health.
- 1 Bacteriologist.
- 1 Public Analyst.
- 1 Veterinary Inspector.
- 1 Chief Inspector of Nuisances.
- 1 Assistant Inspector of Nuisances.
- 2 Meat Inspectors
- 1 Fish Inspector.
- 1 Food and Drugs Inspector.
- 2 Inspectors under the Workshops and Shop Hours Acts.
- 1 Smoke Inspector.
- 1 Cowsheds Inspector.
- 2 Inspectors under the Housing, Town Planning, etc., Act, 1909.
- 13 District Inspectors ; 3 Disinfecting Officers ; 3 Ambulance Drivers ; 1 Storekeeper.
- 1 Chief Woman Inspector.
- 9 Health Visitors.
- 8 Clerks.

Hospital Staff—

- 1 Medical Superintendent.
- 1 Eye and Ear Surgeon.
- 2 Resident Physicians.

Tuberculosis Dispensary—

- 2 Medical Officers ; 4 Nurses ; and 1 Clerk Dispenser.

School Medical Staff—

- 4 Medical Officers.
- 2 Dentists.
- 8 Nurses.
- 2 Supervisors of Physical Exercises ; and 4 Clerks.

Infant Consultations—

- 2 Medical Officers.
- 6 Nurses.
- 1 Dispenser ; and 1 Clerk.

Milk Depot—

- 1 Manager ; 3 Clerks ; and Assistants.

APPENDIX.

TABLES REQUIRED BY THE LOCAL GOVERNMENT BOARD.

TABLE I.
VITAL STATISTICS OF WHOLE DISTRICT DURING 1913 AND PREVIOUS YEARS.

YEAR.	Population estimated to Middle of each Year.	BIRTHS.			TOTAL DEATHS REGISTERED IN THE DISTRICT.		TRANSFERABLE DEATHS.		NETT DEATHS BELONGING TO THE DISTRICT.			
		Un-corrected Numbers	NETT.		Number.	Rate.	of Non-residents registered in the District.	of Residents not registered in the District.	Under 1 Year of Age.		At all Ages.	
1	2	3	4	5	6	7	8	9	Number.	Rate per 1,000 Nett Births.	Number.	Rate.
1908	292,136	5998	...	20'14	4577	15'37	74	76	860	143	4579	15'38
1909	293,983	5507	...	18'73	4208	14'31	66	68	637	116	4210	14'32
1910	295,865	5490	...	18'56	4102	13'86	63	77	695	127	4116	13'91
1911	288,723	5480	5486	19'00	4269	14'79	71	153	765	140	4351	15'07
1912	289,618	5586	5603	19'35	4104	14'17	75	173	553	99	4202	14'51
1913	290,540	5808	5811	19'62	4372	14'76	91	193	741	128	4474	15'11

TABLE I.—*continued.*

NOTES.—This Table is arranged to show the gross births and deaths in the district, and the births and deaths properly belonging to it with the corresponding rates. For years before 1911 some of the corrected rates probably will not be available. The rates should be calculated per 1,000 of the estimated gross population. In a district in which large Public Institutions for the sick or infirm seriously affect the statistics, the rates in Columns 5 and 13 may be calculated on a nett population, obtained by deducting from the estimated gross population the average number of inmates not belonging to the district in such institutions.

* In Column 6 are to be included the whole of the deaths registered during the year as having actually occurred within the district.

In Column 12 is to be entered the number in Column 6, corrected by subtraction of the number in Column 8 and by addition of the number in Column 9. Deaths in Column 10 are to be similarly corrected by subtraction of the deaths under 1, included in the number given in Column 8, and by addition of the deaths under 1 included in the number given in Column 9.

Area of District in acres (exclusive of area covered by water)	22,841	Total population at all ages	288,458	At Census of 1911.
	..	...	..	...	Number of inhabited houses	...	...	...	71,504
	..	...	..	...	Average number of persons per house	...	...	...	4.03

TABLE II.

CASES OF INFECTIOUS DISEASE NOTIFIED DURING THE YEAR 1913.

NOTIFIABLE DISEASE.	CASES NOTIFIED IN WHOLE DISTRICT.							TOTAL CASES NOTIFIED IN EACH LOCALITY.																TOTAL CASES REMOVED TO HOSPITAL.							
	At Ages—Years.							North.	South.	East.	West.	Listerhills.	Great Horton.	Little Horton.	East Bowling.	West Bowling.	Exchange.	Bradford Moor.	Manningham.	Bolton.	Heaton.	Allerton.	Eccleshill.		Idle.	North Bierley East.	North Bierley West.	Thornton.	Tong.		
	Under 1.	1 to 5.	5 to 15.	15 to 25.	25 to 45.	45 to 65.	65 and upwards.																								
Smallpox ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cholera ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria(including Membranous Croup)	449	7	99	263	45	29	5	1	13	26	26	10	24	54	29	10	71	8	20	50	16	42	20	6	3	10	8	1	2	306	
Erysipelas ...	225	1	2	4	26	78	83	31	15	11	10	6	7	13	43	24	26	2	9	13	5	5	5	12	9	6	3	1	...	5	
Scarlet Fever	529	2	126	308	71	15	6	1	21	15	34	9	27	51	29	14	49	3	33	30	31	46	26	19	27	26	10	24	5	409	
Typhus Fever
Enteric Fever	81	...	2	8	16	38	15	2	6	2	7	4	10	1	13	5	9	1	5	6	1	2	...	...	1	2	...	...	...	...
Relapsing Fever
Continued Fever
Puerperal Fever	15
Cerebro-Spinal Meningitis	2	1	1	1	...	1	2	2	1	1	...	1	1
Polio-myelitis	3	...	2	1
Pulmonary Tuberculosis	964	2	14	167	173	409	170	29	96	66	71	91	62	54	54	56	47	25	65	97	19	41	17	22	13	28	21	10	9	...	
Other forms of Tuberculosis	377	8	48	136	81	75	21	8	43	21	29	16	17	34	31	20	21	4	39	22	13	20	5	13	7	8	9	3	2	...	
Anthrax ...	13	6	7	2	7	..	1	...	2	1
TOTALS	2656	20	293	887	421	663	300	72	198	142	178	144	147	211	202	131	223	43	173	219	86	156	74	72	61	80	54	41	21	772	

Isolation Hospital provided by the City Council, situate in the South Ward; also one in Thornton provided by a Conjoint Board. Patients are also sent to the Calverley and North Bierley Conjoint Hospitals, situate outside the Borough. The Sanatorium provided by the City Council is situate in North Bierley East.

TABLE III.

CAUSES OF, AND AGES AT DEATH DURING THE YEAR 1913.

CAUSES OF DEATH.		NETT DEATHS AT THE SUBJOINED AGES OF "RESIDENTS" WHETHER OCCURRING WITHIN OR WITHOUT THE DISTRICT.								TOTAL DEATHS WHETHER OF "RESIDENTS" OR "NON-RESIDENTS" IN INSTITUTIONS IN THE DISTRICT.	
		All ages.	Under 1.	1 and under 2.	2 and under 5.	5 and under 15.	15 and under 25.	25 and under 45.	45 and under 65.		65 and upwards.
All causes	{ Certified ...	4471	739	152	105	133	163	584	1253	1342	1011
	{ Uncertified	3	2	...	...	...	...	...	...	1	...
Enteric fever ...		18	...	...	...	2	1	8	6	1	12
Smallpox ...		...	...	...	...	...	...	...	...	...	...
Measles ...		36	13	8	12	3	...	...	...	...	...
Scarlet fever ...		10	...	1	3	5	...	1	...	...	7
Whooping-cough ...		22	15	1	6	...	...	...	...	...	1
Diphtheria and croup		53	4	4	16	28	...	...	...	1	36
Influenza ...		43	2	1	...	...	1	4	9	26	3
Erysipelas ...		9	...	...	...	...	...	...	4	5	6
Phthisis (Pulmonary Tuberculosis) ...		309	2	3	2	5	44	151	86	16	90
Tuberculous Meningitis ...		49	12	10	8	15	4	...	...	...	13
Other tuberculous diseases ...		67	14	11	5	7	9	10	9	2	27
Cancer, malignant disease ...		349	...	...	1	1	2	49	188	108	94
Rheumatic fever ...		12	...	...	...	3	4	2	3	...	1
Meningitis ...		33	10	4	5	5	3	3	3	...	7
Organic Heart Disease ...		552	2	2	1	11	19	77	214	226	77
Bronchitis ...		410	27	6	2	...	4	18	125	228	59
Pneumonia(all forms)		264	69	30	13	5	10	27	54	56	44
Other diseases of Respiratory organs ...		25	1	...	...	...	2	5	11	6	3
Diarrhoea and Enteritis ...		220	154	33	2	...	2	6	9	14	66
Appendicitis and Typhlitis...		22	...	...	...	8	4	7	3	...	17
Cirrhosis of liver ...		31	...	...	...	...	...	3	23	5	3
Alcoholism ...		17	...	...	...	...	1	10	6	...	6
Nephritis and Bright's Disease...		150	1	...	2	2	5	31	68	41	20
Puerperal fever ...		6	...	...	...	...	2	4	...	...	1
Other accidents and Diseases of pregnancy & parturition		28	...	...	...	...	6	22	...	...	10
Congenital debility and Malformation, including premature birth ...		304	295	7	2	...	...	...	...	...	49
Violent deaths, excluding Suicide ...		115	2	7	6	12	20	21	25	22	41
Suicides ...		28	...	...	...	...	...	9	17	2	2
Other defined diseases ...		1260	118	24	19	20	18	112	376	573	313
Diseases ill-defined or unknown ...		32	...	...	...	1	2	4	14	11	3
		4474	741	152	105	133	163	584	1253	1343	1011
Sub-Entries included in above figures	14(a). Cerebro-spinal Meningitis	2	...	...	1	...	...	...	1	...	...
	28(a). Poliomyelitis										
	28 Anthrax	1	...	...	...	...	...	1	...	...	...

TABLE IV.

INFANTILE MORTALITY DURING THE YEAR 1913.

CAUSE OF DEATH.		Under 1 week.	1-2 weeks.	2-3 weeks.	3-4 weeks.	Total under 1 month.	1-3 months.	3-6 months.	6-9 months.	9-12 months.	Total Deaths under 1 year.
All Causes.	{ Certified ...	185	38	36	18	277	121	159	105	77	739
	{ Uncertified ...	2	.	..	..	2	..	..	..	..	2
{ Small-pox ... Chicken-pox ... Measles ... Scarlet Fever ... Diphtheria and Croup ...	Small-pox ...	..	..	..	..	..	..	..	..	..	..
	Chicken-pox ...	..	..	..	..	..	..	..	1	..	1
	Measles ...	..	..	..	..	..	..	..	3	10	13
	Scarlet Fever ...	..	..	..	..	..	..	..	..	..	..
	Diphtheria and Croup ...	..	..	..	..	..	..	1	..	3	4
{ Whooping Cough... Diarrhoea ...	Whooping Cough...	..	..	..	..	..	4	2	5	4	15
	Diarrhoea ...	1	1	5	1	8	36	46	37	10	137
{ Enteritis ... Tuberculous Meningitis ...	Enteritis ...	..	..	..	..	..	2	10	3	2	17
	Tuberculous Meningitis ...	..	..	1	..	1	..	4	6	1	12
{ Abdominal Tuberculosis ... Other Tuberculous Diseases	Abdominal Tuberculosis ...	..	..	..	..	..	..	3	2	3	8
	Other Tuberculous Diseases	..	..	..	..	..	2	2	2	2	8

TABLE V.

PUBLIC HEALTH TUBERCULOSIS REGULATIONS, 1912.

Summary of Notifications during the period from 1st February, 1913, to the end of the week ending 3rd January, 1914.

AGE PERIODS.	NUMBER OF NOTIFICATIONS ON FORM A.											NUMBER OF NOTIFICATIONS ON FORM B.					NUMBER OF NOTIFICATIONS ON FORM C.			
	Primary Notifications.											Total Notifications (<i>i.e.</i> , including cases pre-viously noti-fied by other doctors).	Primary Notifications			Total Notifications (<i>i.e.</i> , including cases pre-viously noti-fied by other doctors).	Poor Law Institutions	Sana-toria		
													Under 5	5 to 10	10 to 15				Total	
	0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 and upwards									Total
Pulmonary																				
Males ..	—	5	8	27	23	42	92	91	65	43	14	410	486	2	19	19	40	138	109	
Females ..	2	5	21	23	31	53	91	84	30	18	12	370	413	—	18	16	34	34	123	
Non-pulmonary																				
Males ..	2	25	37	20	18	17	19	18	10	1	3	170	177	1	5	3	9	—	1	
Females ..	6	21	29	25	31	15	17	21	5	5	5	180	188	1	7	10	18	2	—	
Totals ..	10	56	95	95	103	127	219	214	110	67	34	1130	1264	4	49	48	101	174	233	

ANNUAL REPORT
OF THE
SCHOOL MEDICAL OFFICER
1913.

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TO THE MEMBERS OF THE LOCAL EDUCATION AUTHORITY
OF THE CITY OF BRADFORD.

MY LORD MAYOR AND GENTLEMEN,

I have the honour to present to you the Annual Report of
the School Medical Officer.

The report is drawn up in accordance with the instructions of the
Board of Education, and shows that all the requirements of the Board
have been carried out without serious difficulty.

It gives me much pleasure to report the excellent work which the
members of the medical staff have done.

I have to acknowledge with thanks the help and co-operation I
have received from the Director of Education.

I am, My Lord Mayor and Gentlemen,

Your obedient servant,

JOHN J. BUCHAN.

MEDICAL OFFICER'S DEPARTMENT,
TOWN HALL, BRADFORD,
31st May, 1914.

I.—ORGANISATION AND GENERAL ARRANGEMENTS.

(A) GENERAL STATISTICS.

Estimated population (1913)	..	..	..	..	..	290540
Average Number of children on rolls	..	..	..	..	..	46821
Average Number in attendance	..	..	..	..	..	37888
Average attendance per cent.	..	..	..	..	..	80.92
Number of half-timers	..	..	..	..	..	5061
Number of Schools (Provided)	..	..	..	..	129	
Number of Schools (Non-provided)	..	..	..	..	68	
					—	197

(B) STAFF.

With a view to co-ordinating the medical work of the City Council as a Health and Education Authority, the Medical Officer of Health became School Medical Officer on the 1st October, 1913. The staff at the close of the year consisted of the School Medical Officer, five whole time Medical Officers, one part time Ophthalmic and Throat Surgeon, two whole time Dentists, five Nurses, and one Supervisor of Remedial Exercises.

The work of the great majority of the teachers in aiding medical inspection and treatment has been of great value. Some of the teachers do not, however, take quite so intelligent a personal interest in the subject as others, and there is need for a more intimate co-operation between the teaching and the medical staff of the Authority.

Much help has been given in the work ancillary to medical inspection by the school attendance officers whose assistance has been greatly appreciated. Here, however, a still closer co-operation would be mutually beneficial.

The following up of cases found defective on inspection during the past year has not been so efficient as it could be desired on account of the comparative insufficiency of the nursing staff to the amount of purely medical work done. This subject has been under the consideration of the authority during the current year, and three additional nurses are being appointed.

(C) CHILDREN EXAMINED.

The classes of children medically inspected in Bradford and the numbers so examined in each class are as follows:—

A.—*Routine Inspection.*

		Number Examined in 1913.
i.	Under the Regulations of the Board of Education :	
(1)	All children admitted to school for the first time during the year	4964
(2)	All children expected to leave school during the year	4289
ii.	By instructions of the Local Education Authority :	
(1)	Children 11 years old or attaining this age during the year	1443
(2)	Children attending Secondary Schools	500

B.—*Inspection of selected children :—*

i.	Defective Children.	
(1)	Elementary school children not due for routine inspection, but presenting obvious physical defects	348
(2)	All children attending special schools	717
ii.	Children not obviously defective :	
(1)	Candidates for street-trading licenses	151
(2)	Children gaining scholarships during the year	520

It will be seen that there was during 1913 a very considerable increase in the number of children examined both at the routine and special inspections.

(D) GENERAL ARRANGEMENTS FOR INSPECTION.

The schedule issued by the Board of Education has with slight modifications been adopted for the work. The parents or guardians of the children were invited to be present during the inspection, which took place in all cases in the schools. The number of parents present is as might be expected, comparatively higher at the inspection of infant scholars than when older scholars are examined.

CHILDREN EXAMINED, 1913.

	Number Inspected	Parents present	Per cent.
Infants	4964	3082	62·1
Older children	5732	2215	38·6
Total	10696	5297	49·5

The number of visits to the schools made by the medical staff during the year was :—

VISITS TO SCHOOLS.

	Routine Inspection	Other Purposes	Total
Medical Officers	402	214	616
Nurses	148	85	233

II.—THE GENERAL CONDITION OF THE CHILDREN.

On Table II., page 236, will be found details of the general condition of the children examined at the routine inspection of 1913.

(A) CLEANLINESS.

In 1019 children, or nearly 10 per cent., the body was dirty or verminous, and in 2657 children, or nearly 25 per cent., the head was verminous. These figures illustrate the extreme frequency of dirty or verminous conditions in Bradford; the proportions in each group of school children are set out shortly in the following tables:—

DIRTY OR VERMINOUS BODIES.

Age Groups	Boys		Girls	
	Number	Percentage	Number	Percentage
Infants	245	9·7	248	10·1
Older Children ..	250	8·7	276	9·6

DIRTY OR VERMINOUS HEADS.

Age Groups	Boys		Girls	
	Number	Percentage	Number	Percentage
Infants	229	9·1	919	37·5
Older Children ..	151	5·2	1258	47·5

It is lamentable to have to record that nearly every second girl among the older scholars had nits or lice in her hair. The need for arousing the public conscience in this matter is extreme. Legislation

is useless to cope with an evil of the magnitude of this. A very great change in the attitude of the majority of women in Bradford to nits and lice in their children's heads is necessary, and it is to be hoped that we will soon see the time when the disgrace of sending girls to school in this condition will be recognised. Although these conditions are more frequent in the schools in the poorer localities it is not to be thought they are only to be found there, for in many of the better schools some astonishing revelations with respect to these conditions are made at medical inspection. It is small comfort for Bradford to know that there are places which show worse records in this matter, thus in Liverpool in 1912, 64·4 per cent. of the infant girls and 72·4 of the older girls had nits or lice in the hair.

The increase during school life of verminous conditions in the heads of girls is worthy of the careful attention of the Local Education Authority. Older girls generally should depend more on themselves than on their mothers to keep their heads free from nits, and through their appreciation of life history of the head louse and the methods of cleansing the head the mothers themselves might be influenced.

There can hardly be said to be any improvement in Bradford with respect to cleanliness in school children. The following tables show the results of inspection of the last four years.

DIRTY AND VERMINOUS CONDITIONS OF THE BODY.

Percentage among all children inspected in previous years.

	1910	1911	1912	1913
Infants	7·4	3·6	10·0	9·9
Older children ..	6·0	3·5	3·2	9·4

VERMINOUS HEADS.

Percentage among infant girls in previous years.

Condition	1910	1911	1912	1913
Nits	30.6	30.0	25.0	34.3
Pediculi	5.7	3.1	3.0	3.2
Total	36.3	33.1	28.0	37.5

VERMINOUS HEADS.

Percentage among older girls in previous years.

Condition	1910	1911	1912	1913
Nits only found ..	52.0	40.2	25.0	43.8
Lice	3.0	3.2	2.0	3.7
Total	55.0	43.4	27.0	47.5

From the record of the past year it would seem that the results of previous years cannot be taken to indicate that a permanent improvement has set in, and there is as much need as ever for a methodical carrying out of inspection and cleansing. This is best done through the agency of nurses, but on account of the many other duties these officers have had to perform it has not been possible for them to devote sufficient time to this work, which after all is to be regarded as one of the primary duties of the authority.

(B) CLOTHING.

Among the infant scholars inspected 1·3 per cent. were found to have insufficient and poor personal clothing, while among the older children there were only 0·7 per cent. insufficiently and poorly clad. The total number so found in both groups was only 111, a comparatively speaking small number.

INSUFFICIENT AND POOR CLOTHING.

Record of Previous Years.

Percentage	1910	1911	1912	1913
Infants	14·0	7·7	2·0	1·3
Older children ..	10·0	6·4	0·1	0·7

The footgear was unsatisfactory in 9·9 per cent. of the infant scholars, and 12·0 per cent. of the older scholars ; in 2·2 per cent. and in 3·6 per cent. of these respective classes the footgear was characterised as very bad.

FOOTGEAR.

Record of Previous Years.

Percentage	1910	1911	1912	1913
Infants	15·0	11·3	11·0	9·9
Older children ..	9·5	8·8	12·2	12·0

From these records it would seem that some improvement has been taking place in the clothing, but differences of opinion in making observations of this kind are liable to arise.

(C) NUTRITION.

Nutrition is a wide general term which represents broadly the result of physiological action in the maintenance and development of bodily tissue. In this report the children who have been recorded as of good nutrition include all obviously healthy children with a fair amount of subcutaneous fat, with firm muscles, and an alert and bright expression and of good colour. Children are regarded as of average nutrition who show no sign of malnutrition, whose skin and muscles do not give any indication of ill-health, who are neither pallid nor anæmic and give normal responses to muscular or mental action without evidence of fatigue. Those children have been considered of poor nutrition when they are undersized, with unhealthy skin and flabby muscles, or when they are more flabby or less anæmic, with a dull expression and a general lack of mental alertness.

NUTRITION OF SCHOOL CHILDREN. SUMMARY OF RESULTS IN 1913.

	INFANTS		OLDER CHILDREN		TOTAL	
	Number	Percentage	Number	Percentage	Number	Percentage
Good ..	2198	44.2	2851	49.8	5049	47.2
Average ..	2302	46.5	2484	43.3	4788	44.8
Poor ..	464	9.3	397	6.9	861	8.0

It will be noted that the older children have on the whole shown slightly less malnutrition than the younger. It will be readily understood that an estimate of the degree of nutrition made on the lines just

mentioned depends largely on the opinion of the examiner. It is not at present possible to eliminate in such estimates the personal factor, and it is therefore impracticable to make comparisons with respect to nutrition of the children in different areas. It may, however, be stated that the average standard of nutrition in Bradford children is higher than that recorded usually :—thus the percentage recorded of children suffering from malnutrition was in London in 1912, 9·3 ; in Liverpool, 10·5 ; in Hull, 11·6 ; in Cardiff, 4·4 ; and in Stoke-on-Trent, 15·2.

(D) HEIGHT AND WEIGHT.

Table III., page 244, gives the average height and weight of the children inspected in 1913 at the various ages. The height and weight of Bradford children are below those in the country generally. From recent anthropometric studies in England it would seem, however, that the average height and weight in the North of England are usually less than in the South, while these are also less in town areas than in country districts. The comparison therefore with England generally is unfair to Bradford, but taking the ages at which the majority of children were examined in 1913 the following comparison may be made between Bradford and the other urban districts of England.

Boys.

Age last Birthday	Height (in inches)		Weight (in lbs.)	
	Bradford	England (Urban)	Bradford	England (Urban)
4	38·4	38·5	35·8	35·5
5	40·4	40·4	37·8	38·2
12	53·9	54·7	69·9	71·5
13	55·4	56·1	74·5	77·2

GIRLS.

Age last Birthday	Height (in inches)		Weight (in lbs.)	
	Bradford	England (Urban)	Bradford	England (Urban)
4	40·1	38·1	34·1	34·6
5	40·7	40·2	37·1	37·3
12	51·2	54·9	62·7	72·3
13	54·3	56·7	71·5	79·2

It will be noticed from these tables that the older children in Bradford do not compare favourably with the older children in urban districts in England.

III.—THE PHYSICAL CONDITION OF SCHOOL CHILDREN.

While routine medical inspection is concerned with the recognition of those well-established diseased conditions which require immediate medical treatment, its primary and more important object is the detection of those lesser signs of illness and hygienic faults which accompany or precede the onset of disease. It is not therefore to be wondered at that in any record of the results of a careful inspection the number of defects discovered is very large. Many of these defects are so advanced that nothing but active medical treatment will remedy them, but the larger number—larger always in proportion to the care taken at the inspection—are to be remedied by simpler measures of which the supervision of the feeding and general hygiene of the child are the chief.

In Bradford last year the number of defects recorded in the 10,696 elementary school children examined was 5,358 or just over 50 per cent. The nature of these defects are set out on Tables II., pages 236—239, and it is now necessary to consider the conditions in detail.

(A) THE EYE.

External Eye Diseases. In all 196 or 1·8 per cent. of the children examined at the routine inspection were found suffering from some form of external eye disease, of which the chief noted were blepharitis and conjunctivitis—inflammatory eye conditions which usually respond fairly readily to simple treatment. Among the children aged 3 and 4 years the percentage suffering from these diseases was 1·5, among children 5 to 6 years it was 2·2, and among children 9 to 13 years it was 1·7. The increase of the percentage of these defects among children of from 5 to 8 years of age is worthy of note, as it would appear to be due at least in part to the eye strain involved by the commencement of education in the schools.

Strabismus. The number of children suffering from strabismus, or squint, was 270 or 2·5 per cent. of the children examined.

Squint was distinctly more prevalent among girls than boys, while it was most prevalent among children in the age group 5 to 8 years.

STRABISMUS IN EACH SEX AND AGE GROUP.

Age Group	BOYS		GIRLS		TOTAL	
	Number	Percentage	Number	Percentage	Number	Percentage
3- 4 years	29	2·4	29	2·7	58	2·5
5- 8 years	47	3·5	63	4·5	110	4·0
9-13 years	40	1·3	62	2·1	102	1·7
Total ..	116	2·1	154	2·9	270	2·5

The increase of squint at the age period 5 to 8 years is due certainly to the eye strain resulting from the educational training of the child. The greater effect resulting from this eye strain in very young girls is to be expected as a sex peculiarity at this age.

Defective Vision. The vision of older children was tested with Snellen's test types, but owing to the difficulty of applying this test in young children it was omitted in the case of the infants. The results are shown on Table II., page 236.

Of the 5,455 children so examined 3,319 only had quite normal vision, the remaining 2,136 or 39.1 per cent. presented a greater or less defect in vision.

CONDITION OF VISION AT AGES 9-13 YEARS.

	$\frac{6}{6}$	$\frac{6}{9}$	$\frac{6}{12}$	$\frac{6}{18}$	$\frac{6}{24}$	$\frac{6}{36}$	$\frac{6}{60}$
Number	3318	980	395	291	168	190	112
Percentage.. ..	60.9	17.9	7.2	5.3	3.1	3.5	2.1

Children whose vision is reported as worse than $\frac{6}{18}$ must be regarded as having a most serious defect of vision. Education along ordinary lines is not suitable for these children. If satisfactory instruction is to be given to them special arrangements require to be made. These arrangements should be associated with the ordinary elementary schools and not with a school for blind.

They should take the form of special defective vision classes in which oral teaching and part of the physical exercises is done with

normal children, while literary work and manual training are carried out under such conditions that the eyes are used to a minimum extent. Such classes have already been instituted in London, Birmingham, and Leicester, and have given good results in preserving the eyesight of these children and promoting their education. From the results in the foregoing table it will be noted that there would appear to be a large number of children in Bradford who would be suitable for such special classes.

The greater incidence of defective vision among girls than among boys has been remarked upon in previous reports, and it is again to be noted in the results of this year.

DEFECTIVE VISION IN EACH SEX.

	Slightly Defective $\frac{6}{6}$ to $\frac{6}{18}$		Seriously defective $\frac{6}{24}$ and over		Total	
	Number	Percentage	Number	Percentage	Number	Percentage
Boys ..	668	24·6	210	7·7	878	32·4
Girls ..	998	36·3	260	9·4	1258	45·8

There can be no doubt that the causes of defective vision are still to a large extent unknown. It is, however, clear that at the age at which school life commences in many children the optical condition of the eyes is such that the school work undertaken there involves eye strain. Such an eye strain in the young causes physical changes in the eye with the result that the vision deteriorates, so that at the later ages of school life numerous and serious defects are recorded.

The infant at birth has not an emmetropic eye ; it gazes into infinity, and only learns in time to see without effort nearer objects. If the

development of the infant's eye to emmetropia is delayed or interfered with, eye strain will result from any continuous effort at near vision with probably also a permanent defect. For the prevention of eye defects the careful study of the development of visual acuity in the very young is essential. Such a study involves laborious work, but it appears to present a fruitful field of research.

(B) THE THROAT AND NOSE.

Tonsils. In 2037 children or 19 per cent. examined at the routine inspection the tonsils were found enlarged. The degree of enlargement varied greatly, but in recording the enlargement the cases were divided into two classes—"slightly enlarged" when no operative interference was required, and "much enlarged" where operative treatment was considered necessary. The incidence and degree of tonsillar enlargement at the different age groups are seen in the following table:—

CONDITION OF THE TONSILS.

Age Groups	Slightly Enlarged		Much Enlarged		Total	
	Number	Percentage	Number	Percentage	Number	Percentage
3- 4 years	402	17·7	120	5·3	522	23·0
5- 8 years	433	16·0	168	6·2	601	22·2
9-13 years	856	14·9	58	1·0	914	15·9
Total ..	1691	15·8	346	3·2	2037	19·0

It will be noticed that during school life the amount of tonsillar enlargement decreases.

Adenoids. This condition is most frequently found associated with enlargement of the tonsils, and together they have frequently most serious consequences on the health of the child. The number of children suffering from adenoids was 952 or 8.9 per cent. of the children examined. The extent of the lymphoid enlargements which constitute adenoids was recorded as marked or slight where operative interference was or was not respectively considered necessary.

ADENOIDS AT EACH AGE GROUP.

	Slight		Marked		Total	
	Number	Percentage	Number	Percentage	Number	Percentage
3- 4 years	181	8.0	23	1.0	204	9.0
5- 8 years	224	8.2	34	1.2	258	9.4
9-13 years	469	8.1	21	0.3	490	8.4
Total ..	874	8.1	78	0.7	952	8.9

The decrease in the incidence of marked adenoids at the later ages of school life is largely due to earlier surgical treatment.

PERCENTAGE OF ENLARGED TONSILS AND ADENOIDS.

Record of Previous Years.

	1910	1911	1912	1913
Enlarged tonsils ..	10.0	12.8	19.4	19.0
Adenoids	9.3	10.6	6.8	8.9

(C) THE EAR.

Otitis Media purulenta. This condition, which is variously known as otorrhoea, or as running or discharging ears, was the most frequent disease of the ear found on inspection. In all 334 or 3·2 per cent. of the children suffered from this condition in one or other ear. In 5 cases both eyes were found discharging. The importance of this condition in its effect on the future welfare of the child can hardly be over-estimated. Mere palliative measures in its treatment is not enough, for though these measures frequently cure the condition, the cure is accompanied in a large proportion of the cases with serious loss of hearing in the ear. Early operative interference is necessary if the hearing is to be saved.

OTORRHOEA AT EACH AGE GROUP.

Age group	Cases	Percentage
3-4	55	2·4
5-8	76	2·8
9-13	203	3·6
Total ..	334	3·2

The increase noted in otorrhoea at the later school ages is not to be ascribed directly to the life of the child in school, as this disease arises most frequently in association with enlarged tonsils or adenoids, or as a direct result of some of the commoner zymotic diseases.

Defective Hearing. The number of children found on inspection to be suffering from defective hearing was 302, or 2·8 of the children

examined. Roughly speaking, hearing was considered normal when the child could respond to a forced whisper at 20 feet distance ; it was considered slightly defective when a response could only be given at 10 feet, and when no response was given at this latter distance the defect was considered a marked one.

DEFECTIVE HEARING AT DIFFERENT AGE GROUPS.

Age group	Slightly Defective		Markedly Defective		Total	
	Number	Percentage	Number	Percentage	Number	Percentage
3-4	31	1.3	—	—	31	1.3
5-8	39	1.4	5	0.2	44	1.6
9-13	213	3.7	14	0.2	227	3.9
Total ..	283	2.6	19	0.2	302	2.8

The increase in defective hearing at the higher ages of school life is therefore marked. To only a small extent is this disease due to the conditions of school life, but its recognition is most important from many points of view at an early age. Children deaf to any appreciable extent are often quite unjustly regarded as dull, stupid children, because they are unable to take full advantage of oral tuition. The teacher therefore should know which children present any degree of deafness so that they can be placed in a favourable position in the class for hearing. Teachers themselves should speak slowly and clearly so that all the children may hear, and, if under these special conditions a slightly deaf child cannot take advantage of the instruction, special arrangements for its tuition must be made. But the recognition of deafness in childhood is of importance also with respect to cure as the

most common kind of deafness is a Eustachian deafness which in childhood is very amenable to treatment.

(D) THE TEETH.

At the routine inspection of children the number of decayed teeth were noted in each case. In this statement of results a distinction is drawn between children with sound teeth, those with one to three decayed, and those with four or more decayed.

CONDITION OF THE TEETH IN AGE GROUPS.

Age Groups	All Sound		Less than Four Decayed		Four or more Decayed	
	Number	Percentage	Number	Percentage	Number	Percentage
3-4	1010	44.8	787	34.8	463	20.4
5-8	757	27.9	987	36.3	958	35.8
9-13	1652	28.8	2646	46.2	1434	25.0
Total ..	3419	31.9	4422	41.3	2855	26.8

The majority of the teeth found decayed among the younger children belonged to the temporary set, but even in these children it was comparatively frequent to find that the first permanent teeth—the six year old molars had already begun to decay. A further consideration of dental disease will be found on pages 208—214.

(E) TUBERCULOSIS.

Routine medical inspection does not give any accurate estimate of the prevalence of tuberculosis amongst school children, as a large pro-

portion of the affected children are excluded from the ordinary Public Elementary school. Before referring to the cases detected in the course of routine inspection it is useful to mention the number of cases of tuberculosis among children notified during the last 11 months of last year under the Local Government Board Order.

NOTIFICATION OF TUBERCULOSIS.

FEBRUARY–DECEMBER, 1913.

Form of Tuberculosis	Age				Total
	Under 1 year	1—5 years	5—10 years	10—15 years	
Pulmonary	2	10	29	50	91
Non-Pulmonary ..	8	46	66	45	165
Total	10	56	95	95	256

At the routine inspection in 1913, 501 or 4·7 per cent. of the children examined were found suffering from tuberculosis or suspected tuberculosis.

Pulmonary Tuberculosis. There is a very considerable difficulty in establishing a diagnosis of pulmonary tuberculosis in childhood ; the cases have therefore been divided into two classes, the first in which the diagnosis was made clear by the physical examination of the chest or by laboratory methods, and the second in which, although the accompanying symptoms strongly suggested tuberculosis, the physical examination gave no unequivocal signs and laboratory methods failed. In all 363 cases of tuberculosis of the lungs were discovered in children examined ; of these 110 belonged to the first class and 253 to the second.

PULMONARY TUBERCULOSIS.

Age Group	Diagnosis Established		Early or Doubtful Cases		Total	
	Number	Percentage	Number	Percentage	Number	Percentage
3- 4 years	10	0.4	19	0.8	29	1.2
5- 8 years	22	0.8	52	1.9	74	2.7
9-13 years	78	1.3	182	3.1	260	4.5
Total ..	110	1.0	253	2.4	363	3.4

The very considerable increase in the proportion of cases at the later ages will be noticed.

Tuberculosis (other forms). The total number of cases of non-pulmonary tuberculosis discovered was 138 or 1.3 per cent. of the children examined ; in no less than 122 of these the disease was located in glands.

OTHER FORMS OF TUBERCULOSIS.

Age Period	Glands		Bones or Joints		Remaining Forms		Total	
	Number	%	Number	%	Number	%	Number	%
3- 4 years	19	0.8	2	0.08	1	0.04	22	1.1
5- 8 years	44	1.6	4	0.1	—	—	48	1.7
9-13 years	59	1.0	8	0.1	1	0.01	68	1.1
Total	122	1.1	14	0.1	2	0.01	138	1.3

This table is interesting as it appears to show an increase in the amount of tuberculosis other than pulmonary at the age period of from 5 to 8 years. This is probably not the case, and the apparent lower incidence of the disease at the ages of 3 and 4 years may be explained by the fact that many children suffering from one or other of these forms of tuberculosis are purposely kept from school until the age of compulsory attendance is reached.

Apart from active cases of tuberculosis other than pulmonary, 18 children were noted with healed lesions affecting the bones or joints, giving rise to deformities.

(F) HEART DISEASE AND RHEUMATISM.

In all 372 children or 3·5 per cent. were found suffering from heart disease; in 56 cases the disease was congenital; and 316 acquired.

HEART DISEASES AT EACH AGE GROUP.

Age Group	Congenital		Acquired		Total	
	Number	Percentage	Number	Percentage	Number	Percentage
3-4 years	15	0·6	50	2·2	65	2·9
5-8 years	13	0·4	78	2·8	91	3·3
9-13 years	28	0·4	188	3·2	216	3·7
Total ..	56	0·5	316	3·0	372	3·5

A considerable increase in the number of cases of acquired heart disease is noted as school life progresses. The proportion of cases amongst boys and girls is seen in the following table.

HEART DISEASES ACCORDING TO SEX.

	Congenital		Acquired		Total	
	Number	Percentage	Number	Percentage	Number	Percentage
Boys (all ages)	27	0·5	172	3·2	199	3·7
Girls (all ages)	29	0·5	144	2·7	173	3·2

It will be noticed that the amount of acquired heart disease discovered on inspection was greater among boys than girls.

Acquired heart disease is most frequently the result of rheumatism, scarlet fever, or chorea. Cases of acute rheumatism are not found in the school, and medical inspection as usually carried out does not readily detect those aberrant forms of rheumatism which appear so frequently to be followed by organic disease of the heart.

Enquiry into the previous medical history of the children examined at the routine inspection showed that 145 had suffered from some form of rheumatism. The age incidence of these was as follows :—

RHEUMATISM—CHILDREN AFFECTED PRIOR TO INSPECTION.

Age Groups	Boys		Girls		Total	
	Number	Percentage	Number	Percentage	Number	Percentage
3-4 years	—	—	1	0·1	1	0·05
5-8 years	9	0·7	2	0·1	11	0·4
9-13 years	43	1·5	90	3·1	133	2·3
Total ..	52	1·0	93	1·8	145	1·4

The greater proportion of girls, especially at the higher ages, who have previously suffered from rheumatism will be noticed.

(G) LUNG DISEASES.

Apart from Tuberculosis 822 children or 7·7 per cent. were found affected with some abnormality of the respiratory system. These cases were almost all of a bronchitic and catarrhal nature, and in many the affection was only slight.

PULMONARY DISEASES OTHER THAN TUBERCULOSIS.

Age Group	Number	Percentage
3-4 years	237	10·4
5-8 years	275	10·1
9-13 years	310	5·4

The large proportion of younger children sent to school with bronchitic illness is worthy of comment. In younger children bronchitis is more apt to be considered a slight illness, but the exposure resulting from school attendance at these ages is distinctly more harmful.

The previous medical history of the children examined showed that 965 had suffered from attacks of serious pulmonary disease.

LUNG DISEASES—CHILDREN AFFECTED PRIOR TO INSPECTION.

Age Group	Bronchitis		Pneumonia		Total	
	Number	Percentage	Number	Percentage	Number	Percentage
3-4 years..	85	3.8	63	2.8	148	5.6
5-8 years..	141	5.2	121	4.4	262	9.7
9-13 years..	285	5.0	270	4.7	555	9.7
Total ..	511	4.8	454	4.2	965	9.0

(H) NERVOUS SYSTEM.

There were 178 children or 1.7 per cent. of those examined suffering from some disease of the nervous system.

NERVOUS DISEASES.

Age Group	Chorea		Epilepsy		Stammering		Others		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%
3-4 yrs.	3	0.1	1	0.04	10	0.4	18	0.7	32	1.2
5-8 yrs.	—	—	2	0.07	19	0.7	8	0.2	29	1.9
9-13 yrs.	10	0.1	2	0.03	70	1.2	47	0.8	129	2.1
Total ..	13	0.1	5	0.05	99	0.9	73	0.7	190	1.8

Chorea. This disease was found on 13 occasions among the children examined. All the cases were at once excluded from school, as attendance at school of children suffering from Chorea should not be permitted on three separate grounds.

- (1) The liability to a grave organic disease of the heart is increased by the physical exertion involved by such attendance.
- (2) The educational efforts of the child aggravate its symptoms and retard its cure, and
- (3) While Chorea cannot at present be definitely stated to be an infectious disease, an apparently imitative condition is occasionally set up among the other scholars.

The disease mostly affects girls, but 2 of the 13 cases noted last year were boys ; 3 of the cases were in the age group 3-4 years, and 10 in the age group 9-13 years.

Stammering. The number of children presenting this condition discovered at the routine inspection was 99 or 0.9 per cent. The incidence of stammering was therefore comparatively large. It was found about twice as frequently among boys compared with girls, 63 cases being boys and 36 girls. It is also to be noted that the proportion of children who stammer increases with age. Stammering is due to a variety of causes, some of which are not wholly understood, but all children who show any tendency to stammer should be noted by the teacher for special examination and supervision. Special attention must be given to those children so that they are taught early to bring about that proper co-ordination of phonation, the lack of which forms the most common cause of stammering.

(I) SKIN DISEASES.

The number of children presenting some skin disease found during routine inspection was 300, or 2·8 per cent.

SKIN DISEASES.

Age Group	Number	Percentage
3-4 years	66	2·9
5-8 years	74	2·6
9-13 years	160	2·7
Total	300	2·8

Of these cases 22 suffered from ringworm; this is a very small number. It will be seen from the following table the cases of ringworm discovered at the routine medical inspection has greatly decreased during the past four years. (See also page 204.)

RINGWORM IN PREVIOUS YEARS.

	1910	1911	1912	1913
Cases	77	78	23	22
Percentage of children examined	1·0	0·9	0·3	0·2

(K) OTHER DISEASES OR DEFECTS.

There were 3,147 children noted on inspection presenting diseases or defects other than those enumerated above. The chief of these were enlarged lymphatic glands and deformities of bones arising from rickets.

	Enlarged Lymphatic Glands		Deformities				Miscellaneous	
			Rachitic		Non-Rachitic and Non- Tuberculous			
Age Groups	Number	%	Number	%	Number	%	Number	%
3- 4 years ..	337	14.8	132	5.8	40	1.7	105	4.6
5- 8 years ..	499	18.4	140	5.1	91	3.3	162	5.9
9-13 years ..	679	11.7	159	3.7	398	7.1	415	7.2
Total ..	1505	14.1	431	4.1	529	5.0	682	6.4

IV. TREATMENT.

In order to obtain the best results from medical inspection the Local Education Authority must make arrangements to secure treatment for all defects. These arrangements in Bradford are somewhat highly developed and for purposes of report may be considered under two heads.

(A) WORK ANCILLARY TO TREATMENT.

When a child is found in school presenting a physical defect the parents or guardians are informed of the condition and advised to obtain treatment for it. As many of the defects found on inspection are apparently minor in character, their importance is not readily

recognised. It is therefore, necessary to explain carefully to parents the serious consequences which may arise from defects which they have been accustomed to regard as trivial. Each year parents have shown an increasing readiness to seek a remedy for defects pointed out to them. But cases still frequently arise where for a variety of reasons adequate medical treatment is not obtained. Systematic re-inspection and home visitation is therefore necessary to follow up all cases when physical defects have been detected. In Bradford this re-inspection has been carried out by the medical staff chiefly in the schools and at the Clinic while the visitation at the homes has been carried out by the nurses. A great deal of useful information as to the exact causes of the conditions noted on inspection can be obtained by home visitation if it is carried out by intelligent workers with a knowledge of disease. Nurses, besides following up cases in their homes, visit the schools for the detection of dirty or verminous conditions, running ears, sore eyes, and the like.

FOLLOWING UP BY NURSES.

Number of schools visited	..	..	..	70
Departments visited	..	..	..	148
Re-visits	..	..	..	85
Visits to homes	..	..	..	278

DEFECTS DISCOVERED BY NURSES.

Ringworm	..	68	Vermin	..	1670
Running ears	..	123	Nits only	..	2794
Sore eyes	..	224	Itch	..	54
Sores on skin	..	322	Squint	..	152
Total	..	5407			

It will be noticed that a comparatively small number of visits were made to the homes by the nurses in 1913. A great deal of the following

up was kindly undertaken by the school attendance officers, but with the increase of the nursing staff it is hoped that a much larger proportion of this work will be carried out by them.

Cases followed up by the school attendance officers usually presented themselves later at the inspection clinic for examination, the number of all such examinations made there in 1913, was 4333.

(B) THE PROVISION OF TREATMENT.

Medical inspection and re-inspection early demonstrated that in Bradford the facilities for obtaining adequate treatment of school children were not sufficiently ample or readily available. The Local Education Authority, therefore, determined to institute a school clinic in 1908. Although here mentioned in connection with treatment the school clinic acts in three capacities, namely :—

- (1) As a centre of record of the physical condition of school children.
- (2) As a place for special examination of those cases where prolonged time or special equipment is required or where questions of school attendance or following up arise (Inspection clinic), and
- (3) As a place for carrying out remedial treatment (Treatment Clinic).

Since the institution of the school clinic the scope of the work has been much extended and the total amount of treatment carried out has greatly increased. This continuous expansion of the work necessitated in 1913 a removal to larger premises in Great Horton Road. These premises have, however, only been temporarily devoted to this purpose as they are not particularly well suited for it.

There were certain extensions of treatment decided upon in 1913. Arrangements were made for operative treatment of diseases of the throat, nose, ear, and eye, at the City Hospital, Leeds Road, and a consulting surgeon was appointed to carry out this work. Fourteen beds have been provided so that all the cases may be kept under observation for a short time after operation.

In the new temporary premises in Great Horton Road, arrangements were made for carrying out treatment by remedial exercises in all cases likely to benefit by these methods, and a woman with special training and qualifications was appointed to supervise this work.

The following summary shows the numbers of cases dealt with at the School Clinic from 1908 :—

Year	Number Treated	Examined only	Total Attendances	Attendances per week
1908	841	590	4050	122
1909	2323	1325	14516	329
1910	3520	2772	19315	439
1911	5019	2655	20325	462
1912	6279	3095	25579	581
1913	8004	4333	34940	791

(A)—*Inspection Clinic*. There were 4,333 children who attended the Clinic in 1913 for purposes of examination only. These children may be divided into four groups of

- (1) Children attending for examination in connection with
medical inspection and school attendances .. 2956
- (2) Children examined as to their suitability for admission
or attendance at the special or open-air schools .. 213

- (3) Children attending for examination as to physical fitness
for half-time employment or street trading .. 182
and
(4) Children in whom the possibility of conveying infection
arose 982

Of the 2,956 children who attended in connection with medical inspection or school attendance, 31 were infant children who had not attended school and who, though, were thought by their parents unfit to attend school; these children made 32 attendances at the Clinic.

The conditions found in the remaining 2,925 cases are shown in the following table :—

SPECIAL EXAMINATIONS IN CONNECTION WITH MEDICAL INSPECTION AND
SCHOOL ATTENDANCE.

Disease	Number of Children			Total Attendances
	Completed Cases.	Remaining Under Observation	Total	
Pulmonary Tuberculosis	290	182	472	1444
Enlarged Glands ..	103	51	154	464
Respiratory Diseases ..	160	105	265	873
Anæmia, Rickets, and Rheumatism	355	177	532	1431
Heart Disease	65	24	89	258
Nervous Diseases ..	84	34	118	367
Ringworm	98	24	122	180
Other Skin diseases ..	3	22	25	36
External Eye Disease ..	2	20	22	52
Adenoids and Enlarged Tonsils	138	57	195	468
Diseases of the Ear, etc.	90	45	135	368
Bone Disease and Deformities	46	91	137	273
Miscellaneous	465	194	659	1330
Total	1899	1026	2925	7544

The following table shows the examinations made in connection with special schools and employment of children.

Object of Examination	Number of Children			Total Attendances
	Completed Cases	Remaining Under Observation	Total	
Admission or Attendance at Special Schools ..	137	9	146	251
Attendance at Open-air School	57	10	67	116
Half-time Employment	26	1	27	39
Street Trading Licenses	154	1	155	157
Total	374	21	395	563

Of the 982 children examined because of the possibility of infection, 310 were found to be in a probable or actual infectious condition and were excluded. The conditions found in these children were :—

Diphtheria Bacilli in Throat	112
Otorrhoea or Rhinorrhoea after Infectious Disease.. .. .	74
Desquamation of Stem	5
Suppurating Glands	16
Paralysis after Diphtheria	15
Other Conditions	88
Total	310

(B)—*Treatment Clinic.* There were 8,004 children who attended the Clinic in 1913 for treatment. The conditions from which these children suffered are shown in the following table :—

CASES TREATED IN 1913.

Diseases	Total Children	Total Attendances
Eye :		
Defective Vision	1031	3161
External Diseases	648	4412
Skin :		
Ringworm of Head	408	2028
Ringworm of Body	92	240
Sore Heads	702	2312
Scabies, Impetigo, &c. ..	636	2779
Otorrhoea and Rhinorrhoea ..	388	5238
Teeth :—		
Inspection cases	2230	2230
Casual Cases	1560	1681
Sores, Accidents, &c.	309	1373
Total	8004	25454

It will be noted that the diseases treated fall generally into two classes (1) minor ailments in which the treatment is so prolonged, tedious, or difficult to carry out in many homes that efficiency in treatment in certain classes of the community is little likely to be secured *e.g.*, in ringworm of the head, or body, sores or sore head, scabies, impetigo, external eye disease, otorrhoea, and rhinorrhoea, and (2) defects or diseases in which more expert treatment is necessary than can reasonably be obtained by a large number of children in the community, *e.g.*, for ringworm (by X-rays), defective vision and defective teeth. The recent extension of the work in diseases of the throat and nose and in treatment by remedial exercises previously mentioned, falls within the second class.

The treatment of minor ailments likely to be neglected at home is carried out by the medical officers at the Clinic, who are greatly assisted

in these cases by the nurses. This is a most important part of the work of the Clinic, with most beneficial results on the child's health, and incidentally on its education by hastening its possible return to school. It will be seen from the preceding table that children suffering from these conditions each attend on an average eight or nine times, the greatest attendance being on account of otorrhoea and rhinorrhoea where the average is fourteen times, and the least on account of ringworm of the body where it is two-and-a-half times.

The treatment of ringworm of the head by X-rays has been extremely successful in Bradford, the results having been almost uniformly good with no bad after effects.

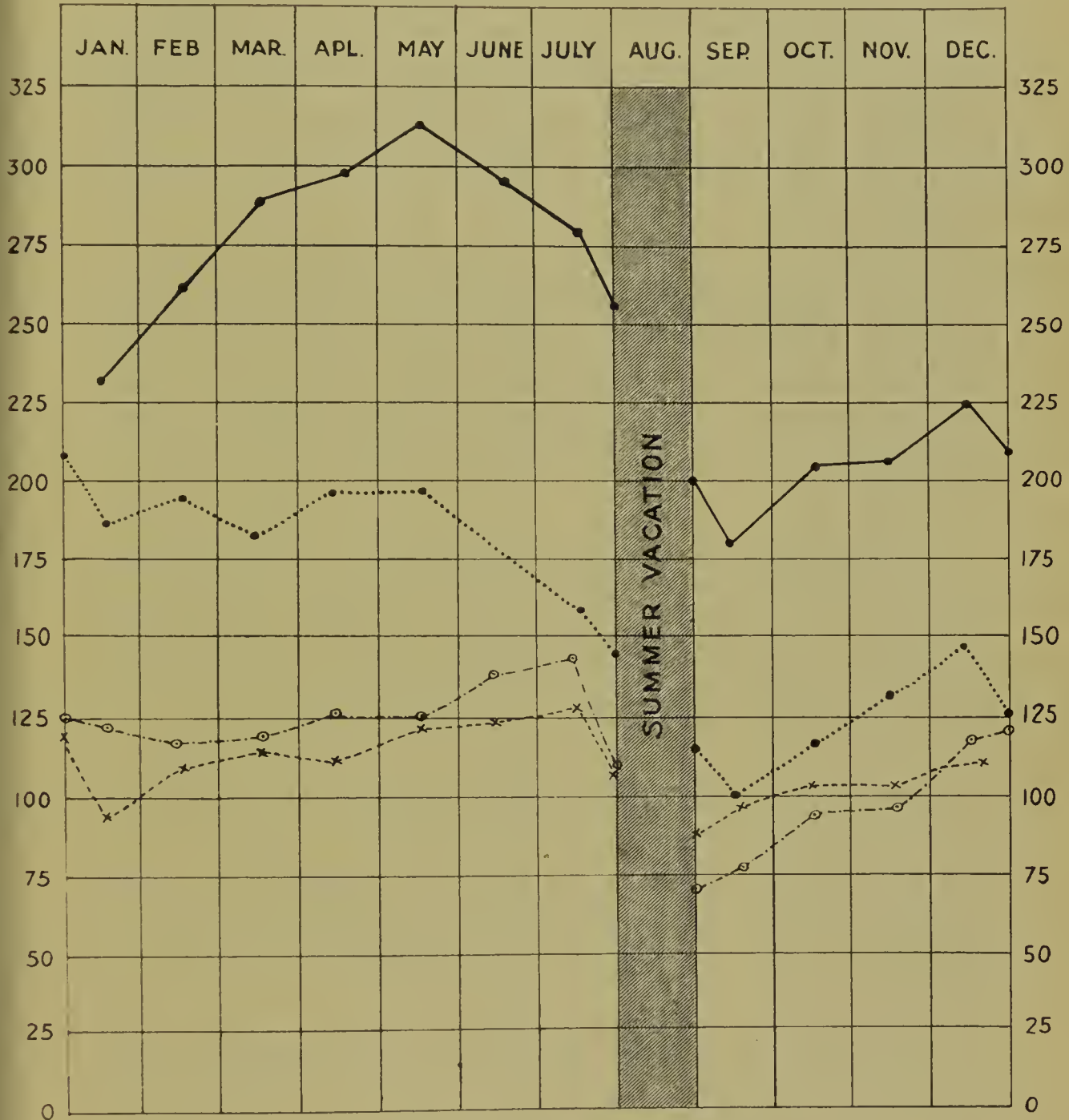
During the year 204 cases were under treatment with X-rays, the details of which are seen in the following table :—

X-RAY TREATMENT OF 204 CASES OF RINGWORM OF THE SCALP.

Number of Cases Treated.	Total Number of Exposures	Average Number of Exposures per Child.	Total Number of Attendances made at Clinic.	Average Number of Attendances per Child.	Total Number of Days under Observation.	Average Number of Days per Child.	Average Time of Exposure per Case.	Average Time per Exposure.
204	806	3.95	496	2.42	6393	31.33	45 minutes	11.4 minutes

From the Chart on page 205 it will be seen that the average number of scholars absent from school on account of ringworm has in 1913 fallen to less than one-half of what it was in 1910 when this method of treatment was adopted.

CHART — SHOWING AVERAGE NUMBER OF SCHOLARS ABSENT FROM SCHOOL ON ACCOUNT OF RINGWORM EACH MONTH DURING THE YEARS 1910, 1911, 1912, AND 1913.



Year 1910 indicated by —●—●—●—
 „ 1911 „●.....
 „ 1912 „ —○—○—○—
 „ 1913 „ —×—×—×—

The arrangements for treatment of defective vision have been on lines similar to those in operation in previous years.

All scholars in upper departments are tested by the Head Teacher, and those found to have abnormal vision again tested by one of the Medical Staff. Those Children who need further examination are sent for to the Clinic, where they are examined, and spectacles prescribed if necessary.

All children suffering from squint, in both Upper and Infant Departments, are asked to attend the Clinic for examination, so that suitable lenses may be adjusted at the earliest opportunity. Many squints, which would later necessitate operative treatment, are in this way cured.

During the year 1,220 children attended the eye clinic and underwent a retinoscopic examination. Of this number 1,033 required spectacles to correct some error of refraction, whilst 177 suffered from other conditions for which spectacles were not indicated.

Those requiring spectacles numbered 435 boys and 598 girls.

Hypermetropia accounted for by far the majority of the errors, simple hypermetropia occurring in 372 and hypermetropic astigmatism in 400.

Myopia was found in 101 children and myopic astigmatism in 80.

Mixed astigmatism was discovered in 80 cases.

The error of refraction was accompanied by squint in 133 of the total number for whom spectacles were prescribed.

DEFECTS OF VISION FOR WHICH SPECTACLES WERE PRESCRIBED.

Age	Hypermetropia		Myopia		Hypermetropic Astigmatism		Myopic Astigmatism		Mixed Astigmatism		Total		Defects Complicated by Squint	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
3	4	2	—	—	—	—	—	—	—	—	4	2	—	1
4	6	6	—	2	1	1	—	—	—	—	7	9	5	3
5	21	10	—	—	4	2	—	—	—	—	25	12	12	4
6	17	12	2	2	10	9	—	1	1	1	29	25	6	10
7	21	17	5	3	19	12	2	1	1	1	48	34	11	5
8	16	22	2	2	27	19	1	9	2	2	47	54	7	11
9	17	23	—	3	24	24	1	5	6	6	44	61	12	8
10	15	23	7	5	22	39	6	5	2	7	52	79	2	5
11	22	32	10	14	25	31	9	10	8	7	74	94	7	4
12	17	25	5	13	19	41	5	8	10	12	56	99	5	6
13	9	32	7	11	18	46	1	13	5	13	40	115	4	3
14	—	1	1	2	2	2	—	—	1	—	4	5	—	2
over 14	1	1	3	2	1	2	—	3	—	1	5	9	—	—
	166	206	42	59	172	228	25	55	30	50	435	598	71	62
Total	372		101		400		80		80		1033		133	

All Children for whom spectacles are prescribed are instructed to attend the eye clinic at some subsequent date, usually three to six months after the primary examination, in order that any re-adjustment of lenses or frames may be carried out.

In the 177 cases in which it was not considered necessary to prescribe spectacles the children were found to be suffering as follows :—

Defects not sufficiently serious	..	..	..	41
Anæmia and Debility	..	..	..	40
Retinal Charges	..	..	..	17
Nystagmus	..	..	..	12
Corneal Ulceration	..	..	..	25
Blepharitis and Conjunctivitis	..	..	..	32
Disease of Optic Nerve	..	..	..	2
Other Conditions	..	..	..	8
				<hr/>
Total	..	..	..	177
				<hr/>

V.—DENTAL DISEASE AND TREATMENT.

During the year the children in thirty-six schools were inspected by the school dentists. The schools inspected in 1912 were again inspected in 1913 with the exception of Usher Street and St. Peter's, where the inspection was carried out in January, 1914.

The total number of children examined up to eleven years was 13,364, and the general results are shown on the Tables on pages 212 and 213.

It will be noticed that in 39 per cent. of the children the teeth were in a dirty state, in 19 per cent. the gums were inflamed or septic, and

in 35 per cent. grinding capacity was bad. The early decay in many cases of permanent teeth will also be noticed. The number of children under dental treatment during the year was 3,790, while the number of teeth actually treated was 7,879—5,688 temporary and 2,191 permanent teeth.

A second dental surgeon was appointed and began duty on September 1st, 1913, and he undertook the inspection and treatment of children of five to eight years of age in schools not previously under systematic supervision. Consequently the number of children examined was much in excess of that in 1912.

The accommodation at the Clinic for dental work was much improved by the removal to the Lister Terrace premises where a rinsing-room is now provided. One of the nurses now devotes her whole time in assisting the dentists at inspection and treatment.

The report which follows has been supplied by the Senior Dental Surgeon (Mr. Knowles) :—

The conditions found were on the whole satisfactory, the sound or artificially sound permanent teeth being 94'647, a decided proportional improvement. Of the decayed permanent teeth 2,384 were saveable, and 2,041 unsaveable.

There is no doubt that the number of unsaveable teeth would have been considerably less if the parents had consented to their children being treated in previous years. It is certainly very difficult to get parents to sanction treatment when their child has apparently a normal set of teeth with perhaps one or two slightly decayed permanent molars. They were until recently of the opinion that the Dental Clinic was merely a tooth extracting department, and as a consequence, many of the teeth which could at one time have been made artificially sound are now hopelessly decayed owing to the parents' neglect in seeking treatment when advised.

The children with clean and fairly clean teeth are not at all unsatisfactory numerically. At the same time I must still advocate the supply of tooth brushes to all school children at a nominal charge if necessary. The Open-air and Special Schools furnish good examples of what can be accomplished by regular cleansing of the teeth.

I do not deny that food plays a most important part in the formation and development of teeth, and that the soft requiring foods eaten to-day do not tend to produce a good sound set of teeth nor a well-developed jaw. I am, however, aware of the difficulty in trying to persuade people to change the character of their food-stuffs, and I believe that the only alternative at the present time is the regular use of the tooth brush to remove the soft, sticking foods which play such an important part in the formation of dental caries.

The number of children treated this year is in excess of 1912, 3,790 attending for dental treatment.

Of this number 2,230 have been sent for by appointment whilst 1,560 casual cases have attended.

The greatly increased number of casual cases (*i.e.*, children who are brought by their parents entirely of their own free will out of school hours) is an indication of the increased interest taken by parents in the Dental Clinic.

The number of fillings remains about the same, but the permanent extractions have increased owing, as I have described previously, to parents not seeking treatment when early enough or when advised. Unfortunately there are still a number of parents who refuse to allow their children to come to the Clinic. The number this year being 596, only 56 of this number acquainting us of their intention to seek treatment privately. The number of children previously treated and requiring further treatment this year was 145. Those attending numbered 115 and thirty-two failed to come.

The services of the Nurse recently added to the Dental Staff has been of the greatest value. The new rinsing and retiring room which was added last year has also been very useful. We have hesitated in the past to administer general anæsthetics on account of the limited accommodation and the time we could allow children to remain in retiring room, and are supervised by the nurse until quite recovered from effects of anæsthetic.

One half-day each week is now devoted to extraction under gas and ethyl chloride.

I have purposely withheld in past reports from stating of the benefits accruing from the establishment of dental treatment of school children.

I however, feel after close upon four years' whole time work amongst these children, I may be allowed to speak with some little authority on the subject. Every doctor knows, and now every Head Teacher in Bradford agrees that there is considerable difference both physically and mentally between a child requiring dental treatment and one already treated.

Personally we have had under our care this year several cases which have been of a most interesting, both as regards their conditions and the value in proving beyond doubt the intimate relationship between Dental Disease and other Diseases. Here are two illustration cases :—

(1) Girl 13. Suffering from septic discharging tuberculous gland. The wound had been dressed for some weeks, but the discharge continued. After extraction of one or two carious teeth the discharge ceased and sinus healed.

(2) A girl came to the Clinic in an extremely exhausted condition as she never had a full night's sleep for some weeks. She had a cough, a high temperature, and could not eat anything. The girl was found suffering from a septic infection of the gums which was diagnosed as cause of the trouble. The condition found was treated systematically each day for about a week and three times weekly for another fortnight. As the conditions in the mouth improved so did the child's general health, and although she was considered previously to be dying, after dental treatment she became strong and healthy again.

I have only quoted these cases which are amongst numerous others to show that the dental clinic is doing good work in preventing at least many of the minor ailments in children.

CONDITIONS FOUND IN TEETH OF CHILDREN EXAMINED BY SCHOOL DENTISTS.

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GIRLS.																					
Age	Number Examined	State of Teeth.			Condition of Gums			Teeth Previously Filled.	Grinding Capacity			Temporary Teeth		Permanent Teeth.			Irregular Teeth	Hypoplastic Teeth	Arrest of Caries	Fractured Teeth	Supernumerary Teeth
		Clear	Fairly Clear	Dirty	Healthy	Inflamed	Septic		Good	Average	Bad	Sound	Decayed	Sound.	Save-able.	Unsave-able.					
5	1009	311	324	374	870	139	...	1	514	292	203	12551	7050	731	15	2	15	28	20	4	1
6	1351	368	482	501	1110	240	1	...	571	392	388	13876	9941	4907	191	21	46	135	53	6	1
7	1465	313	543	609	1196	267	2	4	458	461	546	10293	10490	10756	447	124	157	397	76	7	1
8	1175	265	513	397	934	236	5	52	282	400	493	5458	7423	12358	339	250	128	624	46	3	1
9	1174	282	549	343	985	189	...	106	270	466	438	3697	6017	15212	317	460	147	707	32	7	...
10	394	104	198	92	340	54	...	58	115	164	115	963	1439	5806	136	210	30	225	6	5	2
11	15	4	8	3	12	3	...	...	5	8	2	23	40	264	1	13	7	...	...	...	...
Total	6583	1647	2617	2319	5447	1128	8	221	2215	2183	2185	46861	42400	50034	1446	1080	530	2116	233	32	6

BOYS.																					
5	1139	342	374	423	973	165	1	...	563	335	241	14341	4416	644	12	1	19	71	36	...	1
6	1443	395	483	565	1186	256	1	14	619	390	434	16694	10785	4225	166	23	28	200	24	7	2
7	1483	311	542	630	1220	263	...	2	499	476	508	11644	10377	9150	61	99	81	475	84	2	2
8	1183	212	499	472	947	236	...	25	280	421	482	6340	7631	11238	249	219	93	692	37	...	1
9	1117	201	490	426	905	212	...	87	234	421	462	3147	6193	13482	317	419	91	740	32	9	5
10	395	78	168	149	328	67	...	32	89	133	173	967	1902	5542	126	200	61	360	12	1	...
11	21	6	5	10	15	6	...	2	6	7	8	40	87	332	7	...	5	25	...	...	...
Total	6781	1545	2561	2675	5574	1205	2	162	2290	2183	2308	53173	41391	44613	938	961	378	2563	225	19	11
Gr'nd Total	13364	3192	5178	4994	11021	2333	10	383	4505	4366	4493	100034	83791	94647	2384	2041	908	4679	458	51	17

AVERAGE NUMBER OF TEMPORARY AND PERMANENT TEETH PER CHILD.

[illegible]

PARTICULARS OF CHILDREN TREATED BY SCHOOL DENTISTS.

GIRLS.											
Age	Number of Children Treated.	Temporary Teeth			Permanent Teeth						
		Dressings	Extractions	Scalings	Dressings	Extractions	Scalings	Teeth Filled			
								Amalgam	Amalgam and Cement	Cement	
5	43	1	70	...	...	...	...	2	...	4
6	117	...	191	...	...	...	...	44	5	...
7	263	2	403	...	1	1	...	162	18	19	
8	301	1	524	...	3	3	7	164	13	32	
9	312	5	486	1	8	...	17	186	16	18	
10	97	2	128	...	4	...	9	71	7	6	
11	2	...	5	...	...	...	...	1	...	...
Total ...	1135	11	1807	1	16	4	24	630	59	79	
BOYS.											
5	32	1	61	...	...	...	...	5	...	...
6	136	3	234	...	...	1	...	43	2	...
7	247	...	433	2	...	...	...	140	14	16
8	252	3	420	...	2	2	5	139	28	...	
9	249	...	397	...	4	3	7	182	15	5	
10	102	...	176	...	4	...	5	51	10	2	
11	4	...	1	...	...	...	...	3	2	...
Total ...	1022	7	1722	2	10	6	17	563	71	23	
Total Boys & Girls	2157	18	3529	3	26	10	41	1193	130	102	
Casual Cases	1560*	45	2000	...	168	379	13	43	10	35	
Open-air School	39	2	46	...	...	2	...	19	2	3
Special Schools	34	4	41	...	...	5	...	7	1	2
Grand Total ...	3790	69	5616	3	194	396	54	1262	143	142	

* In addition advice given in 120 cases.

VI.—SPECIAL SCHOOLS AND CLASSES.

Arrangements were in operation in 1913 for the suitable education in special schools or classes of children presenting certain physical and mental defects.

These special schools and classes were as follows :—

	Accommoda- tion.	Average Attendance, 1913.
<i>For Physically Defective Children.</i>		
Open-air School, Thackley	140	140
<i>For Mentally Defective Children.</i>		
Grange Road Special School	40	18
Green Lane Special School	40	15
Lapage Street Special School	40	18
Usher Street Special School	40	34
<i>For Blind Children.</i>		
Carlton Street Special School	48	24
<i>For Deaf Children.</i>		
Carlton Street Special School.	54	21

Green Lane and Grange Road Special Schools amalgamated at Grange Road on the 26th August, 1913.

(A) THE OPEN-AIR SCHOOL.

This school is provided for delicate children, whose education can only be carried on under the most favourable hygienic conditions. The children most suited for admission are therefore those presenting symptoms of deficient nutrition, the pretubercular, convalescents from non-infectious ailments, certain cases of heart disease or nervous disease, and the like. There is therefore a large group of children whose education under open-air conditions is desirable, and among these children there is a smaller class for whom still further requirements in the way of residential open-air education are needed.

The open-air school at Thackley was continued in use as a non-residential institution in 1913, along the lines already described in previous reports, but during the year provision was made for residential accommodation there for twenty boys. This cannot of course be said to adequately meet the needs of the City, but the Education Authority have at present under their consideration the further extension of residential accommodation. It may also be noted here that under the Tuberculosis Scheme of the Council, arrangements have been made for the treatment in a children's sanatorium of early tuberculous cases and this will to some extent relieve the pressure at Thackley.

The late date in the year at which residential accommodation became available makes it impossible to give for 1913 any record of value of the very beneficial effect which this has had, but the general results of the non-residential part of the school continue to be of the most encouraging nature. These results are given on the Tables on pages 219 and 220.

At the Open-air School the requirements of the individual child, having regard to its physical condition, receives special attention. On admission each child is very carefully examined and a record is made of its height and weight, the lung capacity and haemoglobin estimate and all other facts worthy of note. From time to time during its attendance the child is medically examined while a very full examination is made prior to discharge.

The average duration of attendance was 5.21 months; twenty-one boys and seven girls attended for the second time and one boy and one girl made their third visit to the School.

A comparison of the physical condition on admission and on discharge is most instructive. Of the 344 children who left the school during the year only thirteen were described as of "good" nutrition on admission, in 116 the nutrition was average, and in 215 it was poor

or very poor on admission. Whereas on discharge the figures were recorded thus. Nutrition good, 247; average, 93; and poor, 4.

The average gain in weight was 2·61 kilos (about 5½lbs.), and the average gain in height 3·11 centimetres (about 1¼ inches); the average percentage increase in hæmoglobin was 23·44: this is estimated by Tallquist's comparative colour method. The chest measurements shewed an average increase of 1·08 inches, indicative of a comparatively large increase in the vital capacity of the lungs.

The following summary gives a short resumé of the signs of improvement in the children who have attended the school during the past four years.

Year	Number of Children	Increase in Weight. Kilos.	Increase in Height. Centms.	Increase in Haemoglobin	Increase in Chest Measurement	Average stay in Months
1910	458	1·42	1·6	19·5	0·7	—
1911	407	2·5	3·4	24·5	0·8	6·2
1912	505	2·15	2·93	21·57	1·12	5·13
1913	502	2·6	3·11	23·44	1·08	5·21

On the Table on page 218 is set out the particular diseases treated throughout the year.

By far the largest number of the children exhibit defects either of the Respiratory or Circulatory systems, thus tuberculosis and other diseases of the lungs and heart disease with anæmia account for 405 of the cases.

It should be noted that these numbers represent individual diseases. Most of the children classified as Phthisis showed also some degree of anæmia, but the number 162 in the table only represents the children

admitted in whom anæmia was the primary and most marked defect.

Of the 344 discharged during 1913, 314 were either cured or very considerably improved—in two no change could be determined, one was undoubtedly worse; eleven were admitted to other institutions, seven left the City, and nine were excluded from school because of some infections or contagious condition. A small number of children were withdrawn by their parents during the year without the permission of the School Medical Officer, but several of them, after being interviewed at the Clinic and the position discussed with them, were anxious for their children to be allowed to return.

OPEN-AIR SCHOOL.

ADMISSIONS AND DISCHARGES IN 1913.

Disease	Admitted			Discharged			Remaining in School, Dec. 31st, 1913.		
	M.	F.	Total	M.	F.	Total	M.	F.	Total
Tuberculosis									
Lungs ..	79	76	155	63	54	117	37	48	85
Glands ..	9	12	21	8	14	22	5	1	6
Others ..	10	8	18	5	6	11	6	7	13
Anæmia, &c.	51	47	98	50	73	123	23	16	39
Rickets ..	5	2	7	5	5	10	3	1	4
Respiratory ..	9	6	15	12	14	26	1	1	2
Heart ..	1	3	4	5	5	10	1	2	3
Nervous ..	4	8	12	5	14	19	3	3	6
Ear	—	1	1	—	2	2	—	—	—
Eye	—	3	3	—	4	4	—	—	—
Total ..	168	166	334	153	191	344	79	79	158

CASES DISCHARGED FROM OPEN-AIR SCHOOL IN 1913.

GENERAL STATEMENT AS TO CONDITION ON ADMISSION AND ON
DISCHARGE.

Disease	Sex	Num- ber of Cases	Physical Condition						Result		
			On Admission			On Discharge			Improved	Unchanged	Worse
			Good	Average	Poor	Good	Average	Poor			
Phthisis ..	M	63	2	17	44	45	18	—	60	—	—
	F	54	1	23	30	43	10	1	47	1	1
Other Tubercular Diseases	M	10	—	—	10	3	7	—	7	—	—
	F	16	2	7	7	14	2	—	15	—	—
Anæmia. &c.	M	50	1	16	33	35	15	—	47	1	—
	F	73	3	24	46	47	24	2	68	—	—
Respiratory	M	13	—	7	6	12	1	—	11	—	—
	F	14	—	6	8	12	2	—	13	—	—
Heart ..	M	4	—	2	2	3	1	—	4	—	—
	F	5	—	4	1	4	1	—	4	—	—
Nervous ..	M	5	—	3	2	4	1	—	5	—	—
	F	14	3	3	8	11	3	—	13	—	—
Rickets ..	M	5	—	—	5	4	—	1	4	—	—
	F	5	—	—	5	3	2	—	4	—	—
Lateral Curvature	M	3	—	—	3	1	2	—	3	—	—
	F	4	—	2	2	3	1	—	4	—	—
Otorrhoea ..	M	—	—	—	—	—	—	—	—	—	—
	F	2	—	2	—	1	1	—	1	—	—
Eye ..	M	—	—	—	—	—	—	—	—	—	—
	F	4	1	—	3	2	2	—	4	—	—
Total ..		344	13	116	215	247	93	4	314	2	1

CASES DISCHARGED FROM OPEN-AIR SCHOOL IN 1913.

WEIGHTS, HEIGHTS, ETC., ON ADMISSION AND ON DISCHARGE.

Disease	Sex	Average Increase				Average Length of Stay. Months
		In Weight (kilos.)	In Height (c.m.)	In Haemoglobin (%)	Chest Measurement (inches)	
Phthisis ..	M	2.47	2.98	21.90	1.04	6.90
	F	2.83	3.39	22.83	0.95	7.19
Other Tubercular Diseases	M	2.46	2.18	21.86	0.86	7.23
	F	2.13	2.57	21.30	0.98	5.43
Anæmia, &c. ..	M	1.73	2.05	21.67	0.93	4.10
	F	1.60	2.39	23.21	0.87	4.55
Respiratory ..	M	1.72	1.87	19.45	0.65	3.82
	F	3.47	3.28	19.46	0.94	6.16
Heart	M	3.33	3.33	16.67	0.75	4.43
	F	4.30	5.13	23.33	1.33	5.20
Nervous ..	M	1.20	1.86	20.26	1.00	4.20
	F	1.97	2.46	22.92	0.96	5.28
Rickets ..	M	3.00	3.15	24.50	0.88	4.70
	F	3.33	3.93	32.33	1.00	6.20
Lateral Curvature ..	M	2.55	3.73	21.50	1.25	6.17
	F	2.70	4.15	26.75	1.16	10.31
Gonorrhoea ..	M	—	—	—	—	—
	F	4.50	4.50	30.00	1.50	4.00
Eye	M	—	—	—	—	—
	F	1.66	3.00	30.00	1.50	8.00
Total ..		2.61	3.11	23.44	1.08	5.21

(B) THE BLIND SCHOOL.

All the children attending the blind school were frequently examined during the year. Dr. Little, the Ophthalmic surgeon conducted a special examination of forty-six of the children and reported fully thereon.

Totally Blind Children. Of these there were nine, eight of whom

owed their blindness to ophthalmia neonatorum, and one to double optic atrophy supervening on meningitis.

Partially Blind Children. Of the thirty-seven children so classified the vision in twenty-seven was found extremely bad and little likely to improve, while in ten some improvement under expert or operative treatment was thought possible. The causes of the partial blindness in these twenty-seven cases were as follows :—

Ophthalmia Neonatorum	8
Congenital defects such as high hypermetropia, nystagmus, and amblyopia	4
Congenital cataract	4
Corneal Nebulæ	1
High myopia	10

Dr. Little was of opinion that “ all these twenty-seven children were too blind to attend any other form of class than that of the special one at Carlton Street. They are all too blind to recognise the fact that some of their companions in the same class are blind. They doubtless know which of the children are stone blind, but the information is not obtained by visual investigation. The vision of those cases, except the cases of myopia, was less than $\frac{6}{60}$, and in many of them owing to the presence of disease of the macula and nystagmus they do not possess the power of fixing their eyes on any object looked at. It is perfectly right for those children to use the little vision which they possess as much as possible, because in those children who do not have myopia the defect is improved by use but the amount of the improvement is not likely to be very appreciable. This is in complete contrast to the cases of myopia. The ten cases of myopia are all cases of very high myopia. All myopes have an inherent disposition to acquire all their knowledge of things through the eyesight. Such over use of the eyes can only lead to further deterioration of the eyes in contrast to those of the other class who can use their eyes as much as they desire without any fear of damaging them. Entire rest for the myopic eye is the very best and only suitable treatment. If myopic children are to be educated they must be educated in

such a way that the eyes will not be made use of or as little as possible.

The difficulty of reading and writing is got over by training them in the Braille method, and this method trains the child for the purpose of reading to rely on the tips of her fingers and forget the eyes. In due time the eyes may improve, and if no improvement were to take place the eyesight present would be retained, while on the other hand if ordinary reading and writing were to be pursued I feel certain that the eyes of myopics would greatly deteriorate in time. I feel strongly that if all cases of advancing myopia were taught in this way there would be fewer cases of high myopes with the distressing complications too often seen.

In teaching the Braille method there is no need to bandage up seeing eyes. What is needed is a desk with a double deck. The child will work with her hands between the two decks."

The ten cases which Dr. Little reported as likely to improve under skilled treatment were referred to him for treatment and further report.

(C) OTHER SPECIAL SCHOOLS.

The need for further classification of the children attending mentally defective schools has been felt, especially in view of the passing of the Mental Deficiency Act, 1913, and this has been undertaken during the current year.

The new schools at Lister Lane for the deaf and physically defective children will be open in the middle of 1914.

VII.—SPECIAL GROUPS.

(A) SECONDARY SCHOOL CHILDREN.

In all 500 children attending the Secondary Schools were examined.

The results of the inspections are set out in Table II., pages 240 and 242, but comparisons may be made here with the older children attending elementary schools as the examinations were carried out in a precisely similar manner.

Nutrition is described as good in 69.6 per cent. of Secondary school children as compared with 49.8 per cent. (age nine to thirteen), and 44.2 per cent. (age three to eight) of elementary scholars.

The condition of cleanliness of the body and head are considerably better than in the elementary schools. No cases of verminous heads were discovered, but in 3.6 per cent. nits were found in the hair.

The incidence of definite disease amongst this group was not great, the commonest of the defects found being adenoids, 2.5 per cent.; enlarged tonsils, 11.8 per cent.; tonsils much enlarged, 5.6 per cent.; enlarged lymphatic glands, 11.2 per cent.; heart disease, 1.0 per cent.; suspected phthisis, 1.6 per cent.; other lung diseases, 2.0 per cent.; and deformities of spine, bones, and joints, 11.2 per cent. All these figures compare very favourably with the results among elementary children.

The height and weight of secondary school children are considerably above the average of the elementary school children in Bradford and England and Wales generally. See Table III., page 246.

(B) SCHOLARSHIP CHILDREN.

Arrangements were made in 1913 for the medical examination of all children attending elementary schools who were awarded scholarships tenable at one of the secondary schools or at one of the Bradford Grammar schools.

Five hundred and twenty were examined, 294 boys and 226 girls. The ages of this group ranged from nine to thirteen years, and the findings have been recorded in Table II., pages 240 and 243.

The general condition was on the whole excellent with the exception that ten girls were found to have verminous heads.

The heights and weights compare very favourably with those for the average Bradford Elementary School children and also with the average for the country generally.

The serious diseases discovered were small in number.

The excellent physical condition of the large majority of these children was notable and seems to indicate that in the educational race, he wins who has the best health.

(C) STREET TRADING.

The systematic examination of children for street trading licences was begun late in the year 1913, and in all 151 children were examined. Of these 142 were found fit to work, while nine were unfit. These nine children suffered in three cases from early pulmonary tuberculosis, in two cases from heart disease, in three from anæmia and malnutrition, and in one case from chronic bronchitis.

Of the 151 children examined all were boys except one, a girl of eleven years, found physically fit. The ages of the candidates are seen in the following table :—

CANDIDATES FOR STREET TRADING LICENSES.

Age	Number Examined	Number Fit to Work	Number Unfit to Work	Phthisis	Heart Disease	Anæmia and Malnutrition	Chronic Bronchitis
11	105	99	6	2	2	1	1
12	22	20	2	—	—	2	—
13	7	6	1	1	—	—	—
14	14	14	—	—	—	—	—
15	3	3	—	—	—	—	—
Total	151	142	9	3	2	3	1

VIII.—INFECTIOUS DISEASES.

The infectious diseases were not prevalent during 1913.

There were an exceptionally small number of cases of measles during the three first quarters of the year, but the number increased steadily in the last quarter, when there were distinct indications of the disease assuming epidemic form.

The number of cases of Scarlet Fever and Diphtheria was very low.

The accompanying charts indicate the weekly incidence of Measles, Scarlet Fever, Diphtheria, Whooping Cough, Chicken Pox, and Mumps.

IX.—SCHOOL BUILDINGS.

One new school (Thornbury Infants' Department) was opened during the year. This school, which is of the pavilion type of building, is provided with ample facilities for efficient ventilation and lighting of the classrooms, affording healthy conditions for the children.

In the older type of schools there is still much to be desired in the existing conditions of ventilation, and the absolute necessity for a maximum of fresh air in every classroom cannot be too strongly emphasised and insisted upon.

Improvements and alterations to buildings and internal arrangements have been carried out extensively. An account of the improvements follows :—

Barkerend Girls'. Remodelled all the desks and fixed new single seats in all the classrooms.

Great Horton Church. Supplied two new groups of desks.

Drummond Road Senior. Made three gangways instead of one in all classrooms.

Ryan Street Boys' and Girls'. Remodelled all desks and fixed single seats in all the classrooms. Supplied two groups of tables and ehairs.

Ryan Street Junior. Made three gangways instead of one in all classrooms and fixed a new group of desks in one classroom.

Fairweather Green Mixed and Infants'. Made three gangways in all classrooms instead of one.

Barkerend. Fixed new lavatory basins in Boys' and Girls'. Redesked three classrooms and made new Teachers' room in the Infants' Department, and made new teachers' room in the Girls' Department.

Bierley Church. Supplied new seholars' desks to the Mixed Department.

St. James'. Supplied one new group of desks and one group of tables and chairs.

Feversham Street Boys' and Girls'. Fixed new lavatory basins.

Ryan Street Infants'. Enlarged a classroom.

Usher Street Girls'. Remodelled desks in all classrooms.

Frizinghall Mixed and Infants'. Formed three gangways instead of one in all classrooms.

Thornbury. Converted the Mixed and Infants' Departments into Boys' and Girls' Departments. Refurnished the Infants' Department with new desks, tables, and ehairs suitable for Girls. Remodelled all the seats and desks in the Mixed Department suitable for Boys, and supplied a group of ehairs and tables. Improved the heating in two classrooms and the ventilation in all the classrooms—Boys' Department.

Allerton School. Made three gangways instead of one in all classrooms—both departments.

Whetley Lane Boys'. Improved the lighting and ventilation in a classroom.

Barkerend Boys'. Remodelled all scholars' desks and fixed single seats in all classrooms and improved ventilation in the Mainroom (cost over £70).

Otley Road. Made a new Laundry classroom (cost about £20).

Clayton Lane Dining Centre. Made a combined Cookery, Laundry, and Woodwork Centre (cost about £50.)

Feversham Street Boys'. Improved the ventilation in all the rooms at a cost of over £40.

Carlton Street. Remodelled and refurnished a classroom in the Boys' Department at a cost of over £35. Improved the ventilation in four classrooms (one in each department) at a cost of £18.

Undercliffe Infants'. Fixed new w.c. in baths for use of children.

Undercliffe Mixed. Formed three gangways instead of one in five classrooms.

Barkerend Junior. Improved ventilation in two classrooms and two Mainrooms.

Highfield. Converted a store room into a Teachers' room—Mixed Department—and improved the desking in some of the classrooms.

Belle Vue Boys' and Girls'. Fitted the Boys' and Manual Training room throughout with electric light, and a portion of the Girls' Department.

Barkerend Infants'. 'Transferred Babies' Class to a larger and brighter classroom and made the necessary alterations. Made a new Teachers' room with the necessary lavatory accommodation for the Infants' Department.

Lilycroft Boys'. Made a new 'Teachers' room with the necessary lavatory accommodation attached, and removed some desks from the Mainroom.

Slackside. Improved heating and lighting of cloakroom.

Wibsey. Asphalted the playgrounds at a cost of over £400.

Thackley Open-air. Made provision for sleeping twenty boys, fixing curtains, and lighting two resting sheds, making airing closet, new w.c., wash kitchen, &c., at a cost of over £60 for builder's work.

Greengates. Built a new w.c. attached to the school for the use of female teachers.

Bradford Moor. Remodelled all the scholars conveniences and fixed two new w.c.'s and lavatory basins in the school for the use of female teachers.

Hanson Boys' and Girls'. Converted Lecture Theatre and Balance Room, &c., into a Geography Room and a classroom for Boys' Department, and a covered playshed into a Geography room for Girls' Department.

Horton Bank Top. Remodelled the whole of the conveniences. Improved the lighting of the Mainroom and the desking in the Infants' Department.

Marshfield Junior. Removed w.c. out of the 'Teachers' room and fixed it in the Girls' cloakroom.

Wapping Road Mixed. Remodelled the desks in five classrooms and fixed single seats.

Whelley Lane Girls.' Formed a new 'Teachers' room out of a portion of cloakroom.

Feversham Street. Converted a cloakroom into a 'Teachers' room for Girls' and Infants, and formed a new cloakroom in a corridor.

APPENDIX TABLES.

TABLE I.

NUMBER OF CHILDREN INSPECTED 1ST JANUARY, 1913, TO
31ST DECEMBER, 1913.

(A) GROUPS REQUIRED BY THE CODE OF REGULATIONS OF THE
BOARD OF EDUCATION.

(i.) *Entrants.*

Age	3	4	5	6	7	8	Total
Boys ..	418	774	903	347	68	12	2522
Girls ..	416	652	928	356	71	19	2442
Totals..	834	1426	1831	703	139	31	4964

(ii.) *Leavers.*

Age	12	13	14	Total
Boys	1226	898	—	2124
Girls	1313	852	—	2165
Totals ..	2539	1750	—	4289

(B) GROUPS OTHER THAN CODE.

(i.) *In Elementary Schools.*

Age	9	10	11	Total
Boys ..	7	121	622	750
Girls ..	15	103	575	693
Totals ..	22	224	1197	1443

(ii.) *Special Groups.*

Secondary Schools..	..	..	..	..	500
Scholarship Candidates	..	..	..	..	520
Street Trading	..	..	..	..	151
Defective Cases not due for Inspection				..	348
Children in Special Schools	..	..	..	..	717
Total	..	..	..	..	2236

The total number of children in all the groups inspected in 1913 was 12,932 in addition to numerous re-examinations of children found defective on inspection.

TABLE II.—RETURN SHOWING THE PHYSICAL CONDITION OF CHILDREN INSPECTED.
(i.) *Entrants—Total Inspected, 4964.*

Condition.	AGE AND SEX.														Total.	Per cent.
	3		4		5		6		7		8		Total.			
	M	F	M	F	M	F	M	F	M	F	M	F	M	F		
CLOTHING:																
Unsatisfactory ..	3	7	8	3	23	14	5	5	—	—	—	1	39	30	69	1·3
FOOTGEAR:																
Unsatisfactory ..	46	30	75	68	100	94	37	40	7	8	—	1	265	231	111	2·2
CLEANLINESS OF HEAD:																
Nits only ..	48	143	60	194	69	333	18	147	5	18	1	5	201	840	1041	20·9
Pediculi ..	5	8	9	13	9	38	4	15	1	4	—	1	28	79	107	2·1
CLEANLINESS OF BODY:																
Dirty ..	16	20	31	16	42	36	30	13	6	—	1	1	126	86	212	4·2
Pediculi ..	19	29	31	29	43	68	24	34	2	1	—	1	119	162	281	5·7
NUTRITION:																
Below normal ..	169	189	302	308	434	467	173	183	36	30	5	6	1119	1183	2302	46·5
Bad ..	21	30	30	66	107	94	54	46	8	7	—	1	220	244	464	9·3
NOSE AND THROAT:																
<i>Tonsils:</i>																
Slightly enlarged ..	50	45	110	197	158	132	65	45	13	14	2	4	398	437	835	16·8
Much enlarged ..	22	23	41	34	59	54	17	24	5	9	—	—	144	144	288	5·8
<i>Adenoids:</i>																
Slight ..	40	19	68	54	80	78	26	26	5	8	1	—	220	185	405	8·1
Marked ..	2	2	13	6	17	5	2	5	3	1	0	1	37	20	57	1·2
EXTERNAL EYE DISEASE:																
Blepharitis, &c. ..	7	7	11	9	21	23	6	9	1	1	—	—	46	40	95	1·9
EAR DISEASE:																
Otorrhoea, &c. ..	3	6	24	24	25	21	21	8	—	3	—	—	73	62	135	2·7

Less than four decayed	137	141	271	238	340	320	120	141	24	20	7	9	099	077	1770	35
Four or more decayed	73	35	193	162	291	322	134	136	31	33	3	8	725	696	1421	28.6
HEART:																
Congenital	2	3	8	2	5	3	2	3					17	11	28	0.6
Acquired	6	8	21	12	28	24	12	10	2	2			72	56	128	2.6
LUNGS:																
Tuberculosis	1	1	4	4	7	8	2	2		2		1	14	18	42	0.8
Tuberculosis suspected	2	5	7	5	18	12	10	4	3	3	1	1	41	30	71	1.4
Bronchitis, &c.	51	40	79	58	87	89	43	38	7	9	1	1	268	244	512	10.30
NERVOUS SYSTEM:																
Epilepsy	—	—	1	—	—	—	1	1	—	—	—	—	2	1	3	.06
Chorea	—	—	1	2	—	—	—	—	—	—	—	—	1	2	3	.06
Other Diseases	8	9	1	5	5	3	1	2	2	—	1	1	18	20	38	0.7
SKIN:																
Ringworm	1	1	1	1	3	1	1	—	—	—	—	—	6	3	9	1.8
Other Diseases	13	8	27	14	28	20	8	11	—	2	—	—	76	55	131	2.6
RICKETS:																
Slight	15	15	37	19	37	25	11	7	4	2	—	—	104	64	168	3.4
Marked	4	13	16	13	26	13	4	10	3	1	—	1	53	51	104	2.1
TUBERCULOSIS—Non-																
PULMONARY:																
Glands	5	2	6	6	11	14	5	5	4	2	2	1	33	30	63	1.3
Bones and Joints	—	1	1	—	1	2	—	1	—	—	—	—	2	4	6	1.2
Abdomen	—	—	—	1	—	—	—	—	—	—	—	—	—	1	1	.02
DEFORMITIES:																
Deformity present	23	31	78	41	96	58	30	26	13	10	2	2	242	168	410	8.3
SPEECH:																
Stammering	—	3	4	3	7	6	5	—	1	—	—	—	17	12	29	0.6
MENTAL CONDITION:																
Below Average	1	9	17	14	35	81	14	14	3	4	1	—	71	122	193	3.9
Dull	—	2	2	—	—	2	1	—	3	—	—	—	6	4	10	0.2
Mentally Defective	—	—	2	—	—	—	—	—	—	—	—	—	2	—	2	0.04
HEARING:																
Slightly Deaf	4	3	11	13	8	14	7	5	1	3	—	1	31	39	70	1.4
Markedly Deaf	—	—	—	—	1	—	—	1	—	1	—	2	1	4	5	0.1

TABLE II. (continued)—RETURN OF DEFECTS.

(ii.) *Leavers and Intermediate Groups. Total Inspected, 5732.*

Condition	Age and Sex.												Total	Per cent.	
	9		10		11		12		13		Total.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
CLOTHING:															
Unsatisfactory ..	—	—	—	4	5	8	10	3	9	3	24	18	42	0.7	
FOOTGEAR:															
Unsatisfactory: ..	2	1	9	22	67	62	154	151	120	102	352	338	690	12.0	
CLEANLINESS OF HEAD:															
Nits only ..	1	5	5	51	15	261	60	556	58	371	139	1254	1393	24.2	
Pediculi ..	—	—	1	4	4	17	2	44	5	39	12	104	116	2.0	
CLEANLINESS OF BODY:															
Dirty ..	—	1	8	2	21	22	76	72	66	37	171	134	305	5.6	
Pediculi ..	—	1	3	11	31	63	21	28	24	39	79	142	221	3.8	
NUTRITION:															
Below Normal ..	2	6	64	45	336	320	537	513	365	296	1304	1180	2484	43.3	
Bad ..	2	1	10	10	56	64	50	109	32	63	150	247	397	6.9	
NOSE AND THROAT:															
Tonsils:															
Slightly Enlarged ..	2	3	18	13	75	61	189	250	107	138	391	465	856	14.9	
Much Enlarged ..	—	—	5	4	17	25	78	132	65	63	39	19	58	1.0	
Adenoids:															
Slight ..	—	1	—	3	15	18	101	172	61	98	177	292	469	8.1	
Marked ..	—	—	—	1	3	—	2	2	9	4	14	7	21	0.3	
EXTERNAL EYE DISEASE:															
Blepharitis, &c. ..	—	—	—	3	11	13	22	22	17	13	50	51	101	1.7	
EAR DISEASE:															
Otorrhoea, &c. ..	—	—	3	1	18	14	47	59	34	33	102	107	209	3.6	
TEETH:															
Less than Four Decayed ..	2	8	30	30	253	253	593	641	411	416	1298	1348	2646	46.2	
Four or more Decayed ..	4	2	41	35	194	168	260	322	189	213	604	740	1434	25.0	
HEART:															
Congenital Disease ..	—	—	—	—	2	5	3	12	5	1	10	18	28	0.4	

[illegible]

TABLE II. (continued)—RETURN OF DEFECTS.

(iii.) *Secondary School Children and Scholarship Candidates*

Condition	Secondary School Children				Scholarship Candidates			
	Boys (317)	Girls (183)	Total (500)	Per Cent.	Boys (294)	Girls (226)	Total (520)	Per Cent.
CLOTHING :								
Unsatisfactory	—	4	4	0·8	—	—	—	—
FOOTGEAR :								
Unsatisfactory	3	6	9	1·8	—	1	1	0·2
CLEANLINESS OF HEAD :								
Nits only	—	18	18	3·6	—	51	51	9·8
Pediculi	—	—	—	—	—	10	10	1·9
CLEANLINESS OF BODY :								
Dirty	—	2	2	0·4	—	—	—	—
NUTRITION :								
Below Normal	50	82	132	26·4	53	36	89	17·1
Bad	2	5	7	1·4	3	—	3	0·5
NOSE AND THROAT :								
Tonsils :								
Enlarged	38	21	59	11·8	18	29	47	9·0
Much Enlarged	9	19	28	5·6	—	21	21	4·0
Adenoids :	3	9	12	2·4	2	11	13	2·5
INTERNAL EYE DISEASE								
Blepharitis, &c. ..	—	2	2	0·4	—	6	6	1·1

EAR DISEASE:	5	2	7	1.4	4	3	7	1.3
Otorrhoea, &c.								
TEETH:								
Less than Four Decayed	195	147	342	68.4	109	119	228	43.9
Four or more Decayed	59	24	83	16.6	86	51	137	26.3
HEART:								
Congenital Disease	1	—	1	0.2	—	1	1	0.2
Acquired Disease	4	1	5	1.0	4	3	7	1.3
LUNGS:								
Tuberculosis	—	—	—	—	—	—	1	0.2
Tuberculosis Suspected	3	5	8	1.6	1	1	2	0.3
Bronchitis, &c.	5	5	10	2.0	2	6	8	1.5
SKIN:								
Ringworm	—	—	—	—	—	—	—	—
Other Diseases	4	7	11	2.2	1	1	2	0.3
RICKETS:								
Sight	10	—	10	2.0	2	—	2	0.3
Marked	1	—	1	0.2	—	—	—	—
TUBERCULOSIS—NON-PULMONARY:								
Glands	2	1	3	0.6	2	—	2	0.3
Bones and Joints	1	—	1	0.2	—	—	—	—
Abdomen	—	1	1	0.2	—	—	—	—
DEFORMITIES:								
Deformity Present	30	37	67	13.4	13	22	35	6.9
SPEECH:								
Stammering	1	—	1	0.2	—	—	—	—
HEARING:								
Slightly Deaf	4	3	7	1.4	—	2	2	0.3

TABLE II. (continued)—RETURN OF DEFECTS.

(iii.) *A. Secondary School Children.—Details of the Condition of Vision.*

Age	$\frac{6}{8}$		$\frac{6}{9}$		$\frac{6}{12}$		$\frac{6}{14}$		$\frac{6}{24}$		$\frac{6}{36}$		$\frac{6}{60}$		Number of Children examined		
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Total
9 years	—	—	—	—	1	—	—	—	—	—	—	—	—	—	1	—	1
10 years	4	4	2	—	—	—	—	—	—	—	—	—	—	—	6	4	10
11 years	6	1	12	1	3	—	3	—	2	—	—	—	—	—	26	2	28
12 years	38	6	27	1	4	1	4	1	1	—	3	—	2	—	79	9	88
13 years	49	4	18	—	2	1	2	1	—	1	9	—	2	2	82	9	91
14 years	45	14	10	3	4	2	5	3	1	—	2	2	1	—	68	24	92
15 years	21	17	14	1	4	2	1	—	3	—	3	1	1	—	47	21	68
16 years	5	3	2	1	—	—	—	—	—	—	1	1	—	—	8	5	13
Total	168	49	85	7	18	6	15	5	7	1	18	4	6	2	317	74	391

TABLE II. (continued)—RETURN OF DEFECTS.

(iii.) *B. Scholarship Candidates—Details of the Condition of Vision.*

Age	$\frac{6}{6}$		$\frac{6}{9}$		$\frac{6}{12}$		$\frac{6}{18}$		$\frac{6}{24}$		$\frac{6}{36}$		$\frac{6}{60}$		Number of Children examined		
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Total
9 years	1	2	—	—	1	—	—	—	—	—	1	—	—	—	3	2	5
10 years	79	59	24	19	16	6	5	8	5	5	3	3	—	2	132	102	234
11 years	81	67	18	23	9	4	8	5	14	1	3	3	2	3	135	106	241
12 years	15	6	4	3	2	1	—	1	—	—	—	1	—	—	21	12	33
13 years	3	2	—	1	—	—	—	—	—	—	—	1	—	—	3	4	7
Total	179	136	46	46	28	11	13	14	19	6	7	8	2	5	294	226	520

TABLE III.
AVERAGE HEIGHTS AND WEIGHTS.
(i.) *Entrants.*

Age	Number Examined, 1964		Average Height				Average Height (England)				Average Weight				Average Weight (England)			
			Boys		Girls		Boys		Girls		Boys*		Girls		Boys		Girls	
	Boys 2522	Girls 2442	c.m.	ins.	c.m.	ins.	c.m.	ins.	c.m.	ins.	kilos.	lbs.	kilos.	lbs.	kilos.	lbs.	kilos.	lbs.
3	418	416	93·6	36·8	91·1	35·8	92·4	36·4	91·6	36·1	14·8	31·2	13·9	30·5	14·8	32·7	14·4	31·8
4	774	652	97·7	38·4	102·1	40·1	98·2	38·7	98·0	38·6	16·3	35·8	15·5	34·1	16·3	35·9	15·8	34·8
5	903	928	102·7	40·4	103·4	40·7	103·1	40·6	102·6	40·4	17·2	37·8	16·9	37·1	17·5	38·6	17·0	37·6
6	347	356	106·3	41·8	105·4	41·4	107·9	42·5	107·6	42·4	19·2	42·2	16·7	36·7	19·6	42·6	18·5	40·9
7	68	71	113·5	44·6	112·8	44·4	114·8	45·2	113·7	44·8	20·2	45·4	17·6	38·7	21·2	46·7	20·5	45·2
8	12	19	117·9	46·4	118·5	46·6	119·3	47·0	117·6	46·3	21·4	47·0	22·4	49·2	22·9	50·4	22·2	48·9

* The boys were weighed without coats, waistcoats, and boots, accordingly, to make these figures comparable with the average weights (England) as given in Table, '5 kilos. (11 lbs.) should be added. This represents the average weight of the clothing removed from boys aged five years, hence a slightly smaller addition should be made in the case of boys below this age, and a slightly greater in that of boys older.

The figures for "England" have been taken from a table prepared by Dr. A. W. Tuxford (Lincs.) and Dr. R. Ashleigh Glegg (Lincs.), and issued in the Board of Education Medical Report for 1912.

TABLE III. (continued).—HEIGHTS AND WEIGHTS.

(ii.) *Leavers and Intermediate Group.*

Age	Number Examined 573 ^a		Average Height				Average Height (England)				Average Weight				Average Weight (England)			
			Boys		Girls		Boys		Girls		Boys*		Girls		Boys		Girls	
	Boys 2874	Girls 2858	c.m.	ins.	c.m.	ins.	c.m.	ins.	c.m.	ins.	kilos.	lbs.	kilos.	lbs.	kilos.	lbs.	kilos.	lbs.
9	7	15	130.9	51.5	125.6	49.4	124.7	49.1	122.6	48.7	27.0	59.4	24.0	52.8	25.1	55.3	24.7	54.5
10	121	103	129.8	51.1	127.7	50.2	129.5	51.0	129.7	51.1	27.5	60.5	27.6	60.7	27.8	60.4	26.7	58.8
11	622	575	129.7	51.0	130.3	51.2	134.1	52.8	133.6	52.6	29.7	65.3	28.5	62.7	29.9	65.9	29.6	65.2
12	1226	1313	137.1	53.9	138.1	54.3	139.7	55.0	138.6	54.6	31.8	69.9	32.5	71.5	33.0	72.8	33.5	73.8
13	898	852	140.9	55.4	141.0	55.5	142.4	56.1	144.5	56.9	33.9	74.5	37.4	82.2	35.1	77.4	36.3	80.0

^a The boys were weighed without coats, waistcoats, and boots, accordingly, to make these figures comparable with the average weights (England) as given in the Table, .88 kilos. (2 lbs.) should be added. This represents the average weight of clothing removed from boys aged 12 years.

The figures for "England" have been taken from a table prepared by Dr. A. W. Tuxford (Lincs.), and Dr. R. Ashleigh Clegg (Lincs.), and issued in the Board of Education Medical Report for 1912.

TABLE III. (continued)—HEIGHTS AND WEIGHTS.

(iii) Secondary School Children.

Age	Number Examined 500	Average Height						Average Height (England)						Average Weight (England)					
		Boys			Girls			Boys			Girls			Boys			Girls		
	Boys 317	Girls 183	c.m.	ins.	c.m.	ins.	c.m.	ins.	c.m.	ins.	c.m.	ins.	kilos.	lbs.	kilos.	lbs.	kilos.	lbs.	kilos.
9	1	—	132.0	51.9	—	—	124.7	49.1	—	—	—	—	25.1	55.3	—	—	—	—	—
10	6	13	139.3	54.8	136.9	53.8	129.5	51.0	129.7	51.1	—	—	27.8	60.4	26.7	58.8	—	—	—
11	26	26	136.0	53.9	141.7	55.7	134.1	52.8	133.6	52.6	—	—	29.9	65.9	29.6	65.2	—	—	—
12	79	55	142.3	56.0	144.4	56.8	139.7	55.0	138.6	54.6	—	—	33.0	72.8	33.5	73.8	—	—	—
13	82	32	146.4	57.6	152.9	60.1	142.4	56.1	144.5	56.9	—	—	35.1	77.4	36.3	80.0	—	—	—
14	68	27	153.1	60.2	155.5	61.2	147.0	57.9	149.0	58.7	—	—	38.2	84.1	39.8	87.7	—	—	—
15	47	23	158.8	62.5	157.2	61.8	Not	available	—	—	—	—	Not	available	available	—	—	—	—
16	8	7	164.7	64.5	156.5	61.6	Not	available	—	—	—	—	Not	available	available	—	—	—	—

* The boys were weighed without coats, waistcoats, and boots, accordingly, to make these figures comparable with the average weights (England) as given in the Table, 111 kilos. (244 lbs.) should be added.

The figures for "England" have been taken from a table prepared by Dr. A. W. Tuxford (Lincs.), and Dr. R. Ashleigh Glegg (Lincs.), and issued in the Board of Education Medical Report for 1912.

TABLE III. (continued)—HEIGHTS AND WEIGHTS.
(iv.) *Scholarship Candidates.*

Age	Number Examined, 520		Average Height						Average Height (England)						Average Weight						Average Weight (England)					
			Boys			Girls			Boys			Girls			Boys*			Girls			Boys			Girls		
	Boys, 294	Girls, 226	c.m.	ins.	c.m.	ins.	c.m.	ins.	c.m.	ins.	kilos.	lbs.	kilos.	lbs.	kilos.	lbs.	kilos.	lbs.	kilos.	lbs.	kilos.	lbs.				
9	3	2	132.4	52.1	131.7	51.8	124.7	49.1	122.6	48.7	28.1	61.8	27.0	59.4	25.1	55.3	24.7	54.5								
10	132	102	134.7	53.0	133.6	52.6	129.5	51.0	129.7	51.1	28.9	63.6	27.6	60.7	27.8	60.4	26.7	58.8								
11	135	106	135.3	53.2	139.3	54.8	134.1	52.8	133.6	52.6	29.7	65.3	29.9	65.8	29.9	65.9	29.6	65.2								
12	21	12	141.3	55.6	141.5	55.7	139.7	55.0	138.6	54.6	32.9	72.4	32.9	72.4	33.0	72.8	33.5	73.8								
13	3	4	147.9	58.2	150.1	59.2	142.4	56.1	144.5	56.9	37.5	82.5	39.0	85.8	35.1	77.4	36.3	80.0								

* The boys were weighed without coats, waistcoats, and boots. Accordingly to make these figures comparable with the average weights (England) as given in the Table, 1.1 kilos. (2.4 lbs.) should be added.

The figures for "England" have been taken from a table prepared by Dr A. W. Tuxford (Lincs.) and Dr. R. Ashleigh Glegg (Lincs.), and issued in the Board of Education Medical Report for 1912.

TABLE IV.—PREVIOUS MEDICAL HISTORY.

(i). *Entrants.*

Age	Three Years			Four Years			Five Years			Six Years			Seven Years			Eight years		
	Boys	Girls	%	Boys	Girls	%	Boys	Girls	%	Boys	Girls	%	Boys	Girls	%	Boys	Girls	%
Boys ex'd 2522	418			774			903			347			68			12		
Girls ex'd 2442	416			652			928			356			71			19		
Total 4964																		
Disease	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Measles ..	125	29.9	141	33.8	297	38.3	283	43.4	379	41.9	474	51.0	198	57.0	189	53.0	33	48.5
Whooping Cough ..	81	19.3	89	21.3	169	21.8	204	31.2	259	28.6	291	31.3	104	29.9	123	34.5	20	29.4
Scarlet Fever	6	1.4	7	1.6	18	2.3	17	2.6	31	3.3	33	3.5	23	6.6	19	5.3	2	2.9
Diphtheria ..	2	0.4	6	1.4	12	1.5	5	0.7	26	2.8	20	2.1	8	2.3	10	2.8	2	2.9
Mumps ..	21	5.0	24	5.7	48	6.2	52	7.9	93	10.2	73	7.8	42	12.1	41	11.5	10	14.7
Chicken Pox	66	15.7	79	18.9	124	16.0	146	22.3	181	20.0	186	20.0	58	16.7	90	25.2	17	25.0
Vaccinia ..	38	9.0	37	8.8	76	9.8	91	13.9	84	9.3	63	6.7	38	10.9	37	10.3	10	14.7
Typhoid Fever	—	—	—	—	2	0.2	—	—	—	—	—	—	1	0.2	1	0.2	—	—
Pneumonia ..	8	1.9	8	1.9	23	2.9	24	3.6	41	4.5	42	4.5	13	3.7	16	4.4	3	4.4
Bronchitis ..	17	4.1	19	4.5	26	3.3	23	3.5	47	5.2	53	5.7	13	3.7	19	5.3	3	4.4
Rheumatism	—	—	1	0.2	—	—	—	—	7	0.7	—	—	1	0.2	2	0.5	—	—
Tuberculosis..	—	—	—	—	1	0.1	2	0.3	1	0.1	1	0.1	1	0.2	1	0.2	—	—

TABLE V.

PARENTS PRESENT AT MEDICAL INSPECTION.

(i.) *Entrants.*

Age	Boys			Girls		
	Number of Children Examined	Number of Parents present	Percentage of Parents present	Number of Children Examined	Number of Parents present	Percentage of parents present
3 years ..	418	265	63.4	416	289	69.4
4 years ..	774	478	61.7	652	431	66.1
5 years ..	903	543	60.1	928	575	61.9
6 years ..	347	188	54.1	356	209	58.7
7 years ..	68	37	54.4	71	48	67.6
8 years ..	12	7	58.3	19	12	63.1
Total ..	2522	1518	60.1	2442	1564	64.0

(ii.) *Leavers and Intermediate Group.*

9 years ..	7	4	54.2	15	9	60.0
10 years ..	121	37	30.5	103	47	45.6
11 years ..	622	199	31.9	575	295	51.3
12 years ..	1226	353	20.6	1313	636	48.4
13 years ..	898	218	24.2	852	417	48.9
Total ..	2874	811	28.2	2858	1404	49.1

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